# Mt Piper Ash Placement Project Lamberts North Annual Environmental Management Report September 2014 – August 2015

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## *Annual Environmental Management Report (AEMR) Approvals:*

**Approved for Issue:**

Coleen Milroy Nominated Environmental Representative

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# EXECUTIVE SUMMARY

On 16 February 2012, the NSW Department of Planning and Infrastructure (DP&I) approved the Mount Piper Ash Repository Project for the construction and operation of a new ash placement area at Lamberts Gully. In September 2013, ash placement began at Lamberts North with fresh fly ash placement commencing from the north-western corner, placed directly onto the soil base which was constructed at RL 917 m.

Condition E21 of the Minister's Conditions of Approval for the Project (DPI, 2012) states that EnergyAustralia NSW must prepare and submit an Annual Environmental Management Report. Accordingly, the Annual Environment Management Report (AEMR) has been developed to satisfy the relevant Conditions of Approval for the project. Information in the AEMR is provided for the twelve month period from September 2014 to August 2015. The AEMR includes, but is not necessarily limited to:

- Review of project performance against the Operation Environmental Management Plan (OEMP) and the Conditions of Approval (CoA);
- Details of compliance with CoAs;
- Reference to the Complaints Register for the twelve-month period and details of how these complaints were addressed and resolved;
- Identification of any circumstances in which the environmental impacts and performance of the project during the 12 month period have not been generally consistent with the environmental impacts and performance predicted in the documents listed under CoA A1, with details of additional mitigation measures applied to the project to address recurrence of these circumstances;
- Results of all environmental monitoring required under CoA, including interpretations and discussion by a suitably qualified person; and
- A list of all occasions in the preceding twelve-month period when environmental goals/objectives/impact assessment criteria for the project have not been achieved, indicating the reason for failure to meet the criteria and the action taken to prevent recurrence of that type of failure.

The Conditions of Approval and environmental requirements of the Operation Environmental Management Plan were found to be complied throughout the 2014-2015 reporting period.

# 1. Introduction

## 1.1 Background

### 1.1.1 Mt Piper Ash Repository

The Mt Piper Power Station comprises of two 700 MW coal-fired steam turbine generators, built over two stages in 1992 and 1993. The power station is located approximately 17 km northwest of Lithgow and five kilometres east of Portland (Figure 1). In 1990 Lithgow City Council granted Delta Electricity (now EnergyAustralia NSW) consent for ash placement in the former Western Main open cut mine void adjacent to the power station. The ash placement area is in close proximity to the Mt Piper Power Station and is identified as Area 1 (Figure 2) in the Mt Piper Power Station Ash Placement Project Environment Assessment (SKM, 2010). EnergyAustralia acquired Mount Piper Power Station and associated land holdings and infrastructure from the state owned Delta Electricity in September 2013.

Ash from the power station is placed in a dry ash repository, and approximately 680,000 $m^3$ of ash has been placed in this area on an annual basis. Based on the rate of ash emplacement, it was anticipated that this area would reach capacity by 2015. A proposal to create a new ash placement area in the Lamberts Gully area was submitted to the Department of Planning and Infrastructure (now Department of Planning and Environment) in 2009 and was approved in February 2012. The approved emplacement area includes former coal workings, and was also used for coal washery operations by the previous landholder.

Subsequent to Project Approval, Delta Electricity proposed to increase the area of ash placement within the Northern section of the Lamberts Gully site and to change the direction and location of the drainage line proposed to take clean water from the south west boundary (SKM, 2012). At this point the Project was essentially divided into two parts - Lamberts North and Lamberts South; this was in response to the uncertainty of Lamberts South becoming available in the future for ash placement due to land ownership issues outside Delta Electricity's control.

The Project Approval contains a number of conditions that need to be complied with by EnergyAustralia NSW, as the proponent, at different stages of the Project (Section 2). Condition E21 of the Project Approval (DPI, 2012) requires that EnergyAustralia NSW prepare and submit an Annual Environmental Management Report (AEMR) for the approval of the Director-General, Department of Planning and Infrastructure (DPE).

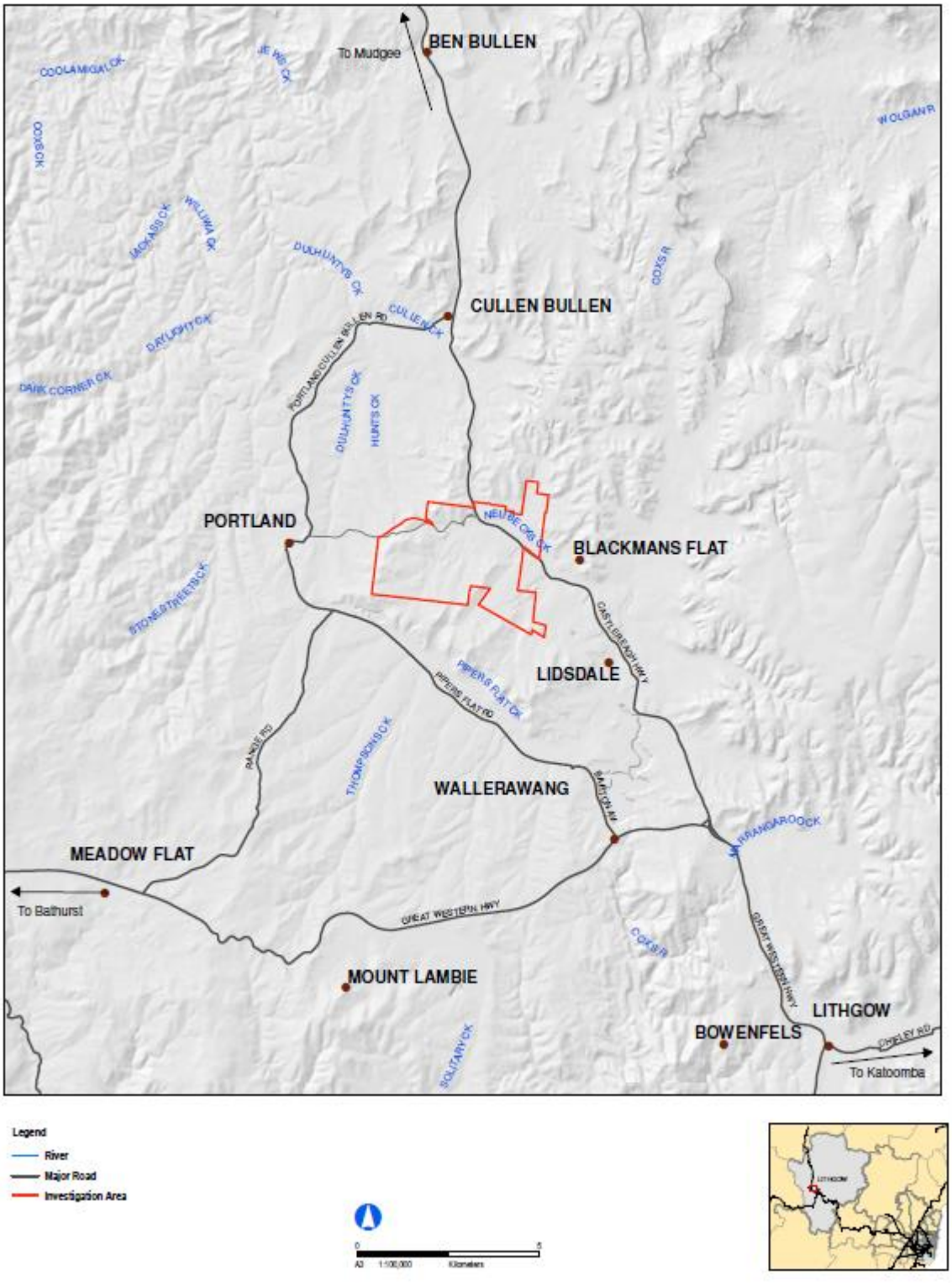


*Figure 1 Regional context map*

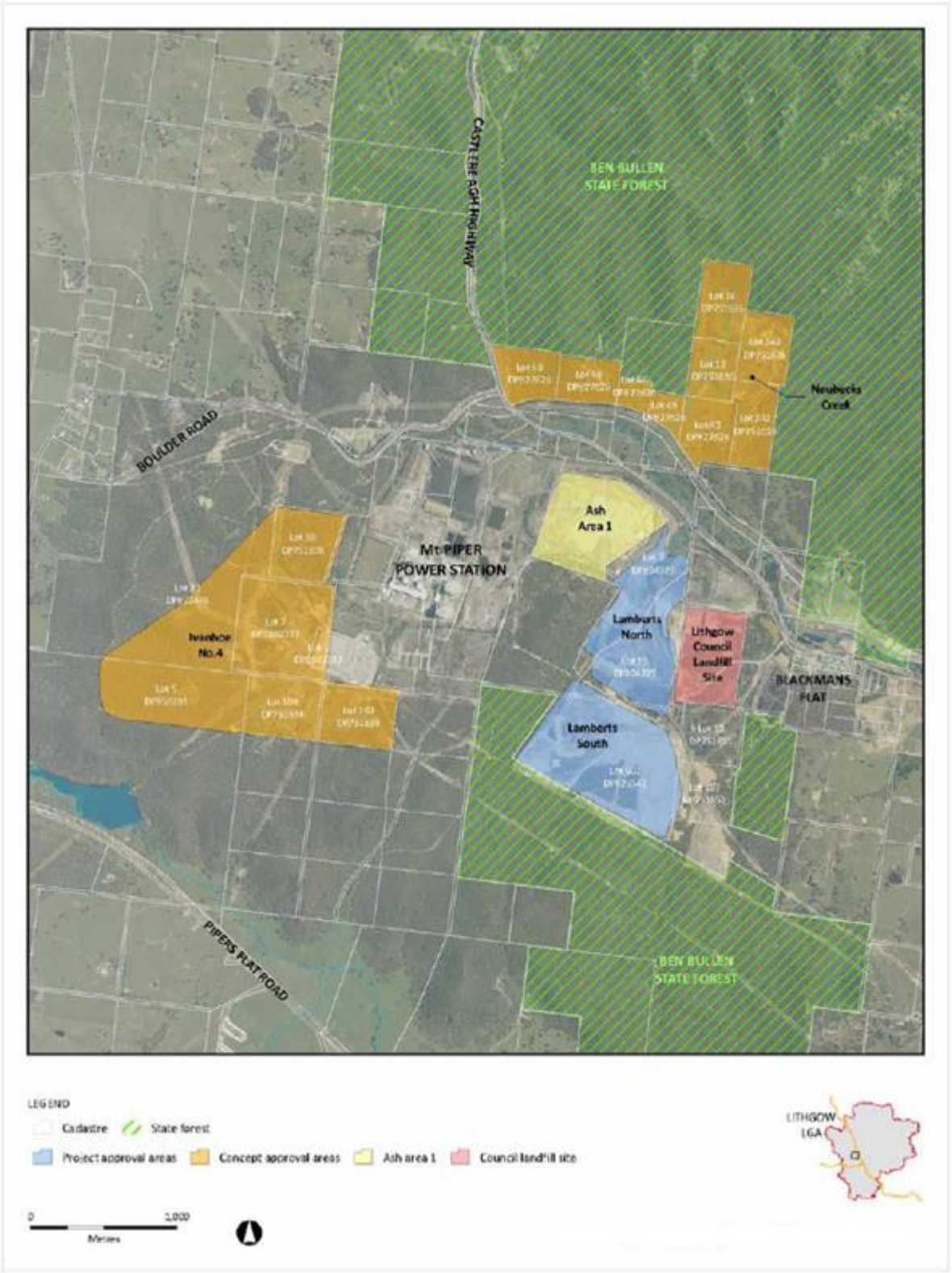


*Figure 2 Site location and land tenure*

## 1.2 Current Project Setting

Lamberts North incorporates an additional 19.7 ha of ash placement with a design that will extend the existing Mt Piper Area 1 structure at the completion of placement to Area 1. In September 2013, ash placement began at Lamberts North with fresh fly ash placement commencing from the north-western corner, placed directly onto the soil base which was constructed at RL 917 m in compliance with the Construction Environment Management Plan (CEMP). Furnace bottom ash was used for the development of haul access roads and for drainage layers (Lend Lease, 2015a).

Placement of fresh fly ash within Lamberts North has continued throughout the 2014-2015 reporting period and is now contiguous with the initial Mt Piper Area 1 (MPA1), as per the design form.

## 1.3 Purpose of the AEMR

This Annual Environmental Management Report has been prepared in order to satisfy Condition E21 of the Project Approval (DPI, 2012). The AEMR is to include, but not necessarily be limited to:

- Review of project performance against the Operation Environmental Management Plan (OEMP) (Conditions of Approval (CoA) D2) and the Conditions of this Approval;
- Details of compliance with CoAs;
- A copy of the Complaints Register (refer to CoA B11) for the preceding twelve-month period (exclusive of personal details), and details of how these complaints were addressed and resolved;
- Identification of any circumstances in which the environmental impacts and performance of the project during the 12 month period have not been generally consistent with the environmental impacts and performance predicted in the documents listed under CoA A1, with details of additional mitigation measures applied to the project to address recurrence of these circumstances;
- Results of all environmental monitoring required under CoA, including interpretations and discussion by a suitably qualified person; and
- A list of all occasions in the preceding twelve-month period when environmental goals/objectives/impact assessment criteria for the project have not been achieved, indicating the reason for failure to meet the criteria and the action taken to prevent recurrence of that type of failure.

# 2. Consents, Leases and Licences

This AEMR has been prepared to address the relevant conditions of the Project approval and the Statement of Commitments which have been triggered during the reporting period. The operation of the Lamberts North project must comply with the following statutory requirements (Table 1):

***Table 1 Key Consents, Leases, Licences and Permits***

| Approval/Lease/Licence | Issue Date | Expiry Date | Details/Comments |
|---|---|---|---|
| Project Approval 09_0186 | 16 February 2012 | - | Detailed summary provided in Appendix A |
| Environment Protection Licence (EPL) No. 13007 | 29 June 2015 | 01 Jan 2020 (Review Date) | Detailed summary provided in Appendix A |
| Mt Piper Ash Repository Area – Submissions Report | March 2011 | - | - |
| Mt Piper Power Station Ash Placement Project–<br>Environmental Assessment.<br>Consistency Report. | August 2010<br><br>May 2012 | - | - |
| Other licences, permits and approvals | - | - | Detailed summary within Section 4.1.2 of the OEMP |
| Other relevant legislation, guidelines and approvals | - | - | Detailed summary within Section 4.1.3 of the OEMP (Appendix B) |

A summary of compliance against the applicable statutory requirements is provided in the sections below (Section 2.1).

## 2.1 Assessment of compliance with conditions of approval

The Project Approval contains a number of conditions that need to be complied with by EnergyAustralia NSW, as the proponent, at different stages of the Project. A summary of the compliance assessment findings against the Conditions of Approval (CoAs) for the management period (September 2014 to August 2015) is provided in Table 2 and outlined below. A detailed review of compliance with the CoA is presented in Appendix A.

In assessing compliance with CoAs the following compliance categories were used:

- Compliance;
- Partial compliance;
- Non-compliance; and
- Not applicable.

*Table 2 Summary of compliance assessment findings for the management period*

| Compliance Category | Number of Findings |
|---|---|
| Compliance findings | 53 |
| Non applicable findings | 14 |
| Non-compliance findings | 0 |
| Total | 67 |

### 2.1.1 Compliance with other licences, permits and approvals that apply to the project

Environment Protection Licence

The project area is located within the operating area of EnergyAustralia NSW's Mt Piper Power Station, which holds an Environment Protection Licence (EPL) No. 13007. The licence regulates the operation of the Mt Piper Power Station, including the operation of associated ash repositories.

The following sections of the EPL are relevant with respect to the operations of Lamberts North (See Table 3):

- **L1 Pollution of waters:** Except as may be expressly provided in any other condition of the Licence (EPL 13007) the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997 (POEO Act): Prohibition of pollution of waters;
- **L4 Waste:** The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence;

*Table 3 EPL compliance assessment*

| EPL requirements | Finding | Relevant Section of AEMR |
|---|---|---|
| L1 Pollution of waters | Compliant | Section 4.5 Groundwater Monitoring and Section 4.6 Soil and Surface Water Quality Monitoring |
| L4 Waste | Compliant | Section 4.12 Waste management |
| O1 Activities must be carried out in a competent manner | Compliant | Detailed review checklist of CoA (Appendix A), Section 4 Operations during the reporting period |
| O2 Maintenance of plant equipment | Compliant | Section 4 Operations during the reporting period |
| O3 Dust | Complaint | Section 4.9 Air Quality Monitoring |

## 2.2 Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) for Lamberts North was developed in consultation with EnergyAustralia NSW's Western Environment Section and approved by the then DPI in November 2012. The CEMP meets the requirements of CoA B4, providing the framework to manage the environmental aspects associated with construction works during Lamberts North operations. The CEMP has been written to address the

requirements associated with the project as stipulated in the relevant provisions of the Project Approval 09_0186 issued by the DPI (CDM Smith, 2012a).

## 2.3 Operations Environmental Management Plan

The Operations Environmental Management Plant (OEMP) provides the framework to manage the environmental aspects associated with the operation of Lamberts North. The OEMP (CDM Smith, 2013) outlines the requirements associated with the project as stipulated in the relevant provisions of the Project Approval 09_0186 issued by the DPI, the Environment Protection Licence 13007 (EPL) issued by the NSW Department of Environment and Climate Change (DECC), and the Statement of Commitments (SoC) presented in the Submissions Report (SKM, 2011).

The scope of the OEMP covers all operations involving the movement and placement of ash from Mt Piper Power Station (MTPPS) to Lamberts North Ash Repository. Performance against the OEMP is provided generally in Section 4.1.

## 2.4 Actions required from previous AEMR review

In a letter dated 16 June 2015, the DP&E stated that with regards to the 2013-2014 AEMR, that the Department was generally satisfied that the relevant requirements of the approval were adequately addressed. Three comments were made, which are detailed in Table 4. The status of these actions is also detailed below and in the relevant sections of this AEMR.

***Table 4 Actions required from last AEMR***

| Actions Required | Response |
|---|---|
| Further quantitative detail to be provided on operations during the year, including<br>a) Volumes of fly-ash delivered to the site<br>b) Area (ha) of the repository that have undergone works and the nature of those works | a) Volume of fly-ash delivered to the site –<br>2013-2014 = 351,995 tonnes<br>2014-2015 = 148,679 tonnes<br>b) Area (ha) of the repository that have undergone works –<br>28 ha (276,854m$^2$)<br>Nature of works – ash placement, water management ponds and exposed excavation area. |
| Further analysis of monitoring data, including:<br>a) Figures to illustrate sampling locations<br>b) Data tables. If data cannot be graphed, please illustrate or highlight key indicators and comparison with levels described in the management objectives, and describe a review of trends over the years of operations. Consider the use of ranges, median or mean to summarise data and separating analytes into relevant groupings, e.g. Water quality, metals, nutrient loading, instead of documenting all data<br>c) Provision of more supporting data and | a) Please refer to Figure 3 on page 11 of the report. No further figures are deemed necessary.<br>b) Data tables for are contained within supportive documents found within the appendices of the report. Additional information, including the review of trends over the years of operations, can also be found in associated supportive documents contained within the appendices.<br>c) Supportive data is found in the supportive documents in the appendices of the report. The results and conclusions reached are detailed in the AEMR.<br>d) The only exceedance within the 2013-2014 reporting year was in regard to air monitoring. To satisfy this request, please note that the following should be added to Section 4.9.2.1 of the 2013-2014 AEMR:<br>• NSW experienced extremely poor air quality during late 2013 due to the impacts of bushfires in September, October and November. During the bushfire emergency, relatively high levels were recorded at most |

| Actions Required | Response |
|---|---|
| descriptions on why conclusions were reached on each environmental objective.<br>d) Provision of an explanation of exceedances within the AEMR and not appendices | monitoring stations. During October and November 2013, the wind direction was predominantly in a NE direction at the Mt Piper Weather Monitoring station and, given the proximity of the bushfire emergency to Mt Piper Power Station, it is expected that the exceedances recorded for PM10 at the TEOM and PM10 and PM2.5 at the AQMS were a result of the bushfire emergency that affected NSW during September, October and November. Therefore, after investigations, the likely source of PM10 and PM2.5 on the noted days was not from ash placement at Lamberts North, but due to high pollution events as a result of bushfires in the nearby area. |
| Please provide the Mount Piper Power Station website addresses for all documents required under Condition B10. | The following website address contains information pertaining to Lamberts North operations:<br>http://www.energyaustralia.com.au/about-us/what-we-do/projects/mt-piper-and-wallerawang<br><br>This page contains a link to the DP&I project page, where the following documents can be accessed:<br>• Major Project Application 07_0005<br>• Mt Piper Ash Placement (two volumes) – Environmental Assessment, prepared by Sinclair Knight Merz and dated August 2010<br>• Mt Piper Ash Placement – Submissions Report, prepared by Sinclair Knight Merz and dated March 2011<br>• Project Approval (Conditions of Approval) File S07/00001, dated November 2008<br><br>A link to the most updated version of Mt Piper Environment Protection Licence is available from:<br>http://www.energyaustralia.com.au/about-us/what-we-do/generation-assets/wallerawang-mtpiper-power-station/mtpiper-epa-reports<br><br>EnergyAustralia note's the department's request that the provision of all strategies, plans and programs required under the project approval (i.e. the OEMP); and the outcomes of compliance tracking in accordance with the requirements of the project approval (e.g. AEMR) are to be available on our website. To that end, we are endeavouring to upload these documents as soon as possible onto our website. |

# 3. Environmental monitoring

Environmental monitoring is designed to comply with regulatory requirements and the CoA, and provide an ongoing analysis of the condition of the environment during operations. Monitoring results are used as indicators of the effectiveness of mitigation measures and controls implemented on the site, and to provide a vehicle for regulatory reporting, demonstrating compliance, and as a chronicle for environmental investigations and complaints.

Specific monitoring requirements for noise, air, surface water, groundwater, and revegetation and rehabilitation matters are outlined in the sub-plans of the OEMP (Section 6 of OEMP). Sample locations are shown in Figure 3. Monitoring of environmental impacts is carried out in accordance with the OEMP and relevant environmental guidelines and legislation. Any noncompliance will be recorded and reported to the Contract Administrator. As stated in each sub-plan, authorised personnel will perform monitoring and testing during the operations. When carrying out monitoring or testing, the nominated personnel will ensure that the specific operation functions are being performed in accordance with the referenced sub-plan, instruction, regulation and/or specification. All monitoring samples have been collected by qualified personnel and analysed in a NATA accredited laboratory.

The associated Environment Monitoring Program can be found in Appendix C. The specific environmental requirements of Environment Monitoring Program will be addressed in the subsequent sections.

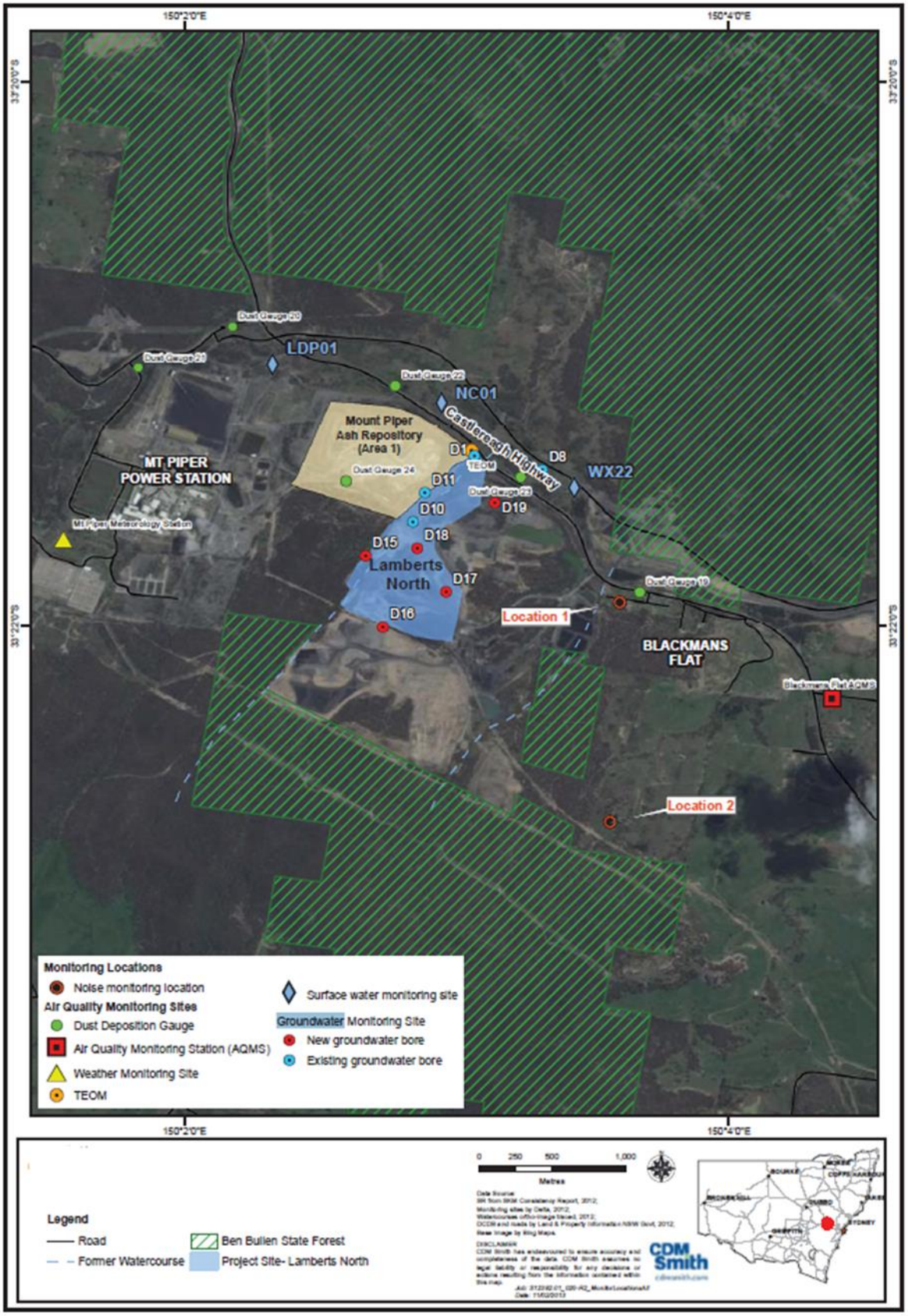


*Figure 3 Environmental monitoring locations*

# 4. Operations during the reporting period

All ash placement operations for Mt Piper Power Station, including Lamberts North, are undertaken by a contracted specialist in ash placement. Lend Lease is the current service provider for EnergyAustralia NSW in all aspects of ash and dust management. The Lamberts North ash repository is managed under an 'operate and maintain' contract.

Operations of Lamberts North within the reporting period consisted of ash placement, water management ponds and exposed excavation works with a total area of 28 hectares (276,854 $m^2$).

## 4.1 Normal operating hours

The normal hours of operation for the Project are between 6 am and 8 pm Monday to Friday, and 6 am to 5 pm Saturday and Sunday in accordance with Condition E1. Operations outside these hours are defined as abnormal or emergency operating conditions and are subject to specific requirements in accordance with E2 (Section 4.2 OEMP).

## 4.2 Abnormal or emergency operating conditions

Conditions under which operations outside the normal hours of operation can occur have been specified in the Project Approval and can be described as follows:

- Where it is required to avoid the loss of lives, property and/or to prevent environmental harm; or
- Where a breakdown of plant and/or equipment at the repository or the Mt Piper Power Station and the proposed Mt Piper Power station Extension project with the effect of limiting or preventing ash storage at the power station outside the normal operating hours Condition E1 (Section 3.1 OEMP).
- Where a breakdown of an ash haulage truck(s) or the conveyor belts prevents haulage during the operating hours stipulated under Condition E1 combined with insufficient storage capacity at Mt Piper Power Station to store ash outside of the normal operating hours; or
- In the event that the National Electricity Market Management Company (NEMMCO), or a person authorised by NEMMCO, directs EnergyAustralia NSW (as a licensee) under the National Electricity Rules to maintain, increase or be available to increase power generation for system security and there is insufficient ash storage capacity at the Mt Piper Power Station to allow for the ash to be stored.

Under these circumstances, EnergyAustralia NSW is required to notify the EPA, formerly DECC, and nearby sensitive receivers prior to any emergency ash haulage or placement operations outside of the '*normal operation*' hours, and the Director-General of the DPI within 7 days after the emergency operations have occurred.

No operating conditions have occurred at the Lamberts North ash repository outside the normal operating hours during the reporting period.

## 4.3 Ash delivery and placement

### 4.3.1 Environmental Management

Ash generated as a by-product from the operation of Mt Piper Power Station is transported by conveyer from the Station to RL 937 m at the Mount Piper Ash Repository as part of the existing operations. Ash is then transported by heavy haulage vehicles (generally one to two trucks) from RL 937m to either the previously established Mt Piper Ash Repository (Area 1), or to Lamberts North. Transport to Lamberts North is facilitated via the southern boundary haulage road in the existing ash repository. On delivery to the Lamberts North ash repository area, the water conditioned ash is deposited at the working face where compactors and bulldozers are then used to place the ash in stable landforms and to establish adequate and appropriate drainage. Ash placement can be broadly described as including the following processes:

- Identifying the current operational location for placement of ash.
- Placing ash at the existing face using truck and shaping of ash with a bulldozer.
- The ash is treated to achieve an average compaction of 95%, relative to its maximum standard compaction, through controlled combination of water addition and machine compacting with the use of rollers and rubber-tyred vehicles.
- Ash is placed in layers and stepped to produce an overall batter slope of approximately 1(V):4(H), with benches added every 10m in vertical height change. This process of ash placement produces an average batter length of 40m.
- The sequence of ash placement will entail initially placing ash across the site starting from the most northerly part, then towards the east and south of Lamberts North, working to reach a final design height of 960 m AHD through abutment with Mount Piper Area 1 ash placement.
- Boundary faces are sequentially covered with material to be sourced from locally available material and commence replanting and restoration activities. The process is repeated until Lamberts North is filled to its maximum permissible height and extent.
- Ash will be placed to the desired height (0.5m to 1m lifts) in pads, with materials that have been moisture-conditioned with water placed in the lower layers to an elevation as specified in approved design drawings, with corresponding heights of 10m.
- Methods for the placement of ash materials to optimise compaction and stability of the emplacement areas include target moisture contact, compaction density, and progressive capping and vegetation.

Capping of exposed ash areas will be undertaken progressively as Lamberts North reaches the design height of 940 metres AHD. Progressive revegetation will occur on the batters and laybacks as required as ash placement

commences. Lend Lease has commenced rehabilitation on the north east embankment with the current rehabilitation practices effective with no evidence of major erosion issues on the embankments and laybacks (Aurecon, 2014a). On completion of ash placement in the Lamberts North the site will be and revegetated as outlined in the revegetation plan (section 6.8).

### 4.3.2 Environmental Performance

A total of 148,679 tonnes of ash has been placed in Lamberts North during the 2014-2015 reporting period.

Operations at Lamberts North are considered to have met the following targets of the Ash Management targets and Performance indicators of the OEMP (OEMP Section 6.1):

- Compliance with the normal hours of operation condition for at least 98% of the year and its stretch target of 100% of the year-
    - Operation records show the Stretch Target has been achieved, i.e. 100% within normal hours;
- Compliance with the ash placement and compaction procedures - target of 95% dry density ratio exceeded at monthly testing from September 2014 to August 2015 averaging 96.7%.
    - Compaction testing is done on a monthly basis at the ash placement site. The Lend Lease monthly reviews submitted to EnergyAustralia NSW contain the compaction test results for each month. Average compaction of at least 95% was achieved for all the months, ranging from 95.2 % (June 2015) to 100.8% (December 2014).
- Integrate within the concept of ash management a market development program of alternative uses for coal combustion products other than repository storage.

All management and mitigation measures specified in the approved OEMP were found to be complied with.

### 4.3.3 Reportable Incidents

No reportable incidents have been recorded against ash delivery and placement for the reporting period.

### 4.3.4 Further Improvements

Further improvements have been identified for the next reporting period:

- The compaction rate of an average of 95% needs to be reviewed in the OEMP because it should be a target not an absolute figure.

## 4.4 Operational Noise Monitoring

### 4.4.1 Environmental Management

The Lamberts North Operational Noise Management Plan (ONMMP) has been developed to address the specific requirements of the Conditions of Approval (CoA) D3 (a) and E7 to E14 for the Project.

The ONMMP provides the framework to manage operational noise emissions and minimise potential noise impacts to sensitive receivers during the operation of the Project. The level of noise generated during the proposed works program will depend on the location of the receiver, the type and duration of works and intervening topography, and existing building structures between the noise emission source and receiver.

The residential community of Blackmans Flat is located to the east of the private haul road and ash repository site. The following residential properties, located within 1100m meters from Lamberts North, have been identified as the nearest potentially affected sensitive receivers to noise from the repository site:

***Table 5 Representative noise measurement locations***

| Sensitive Receiver | Distance to Haulage Road (m) |
|---|---|
| 1.Blackmans Flat (east of Lamberts North) | 1100 |
| 2.Blackmans Flat (west of Castlereagh Highway) | 1100 |

During the reporting period compliance monitoring was conducted during the early morning and evening periods as per the requirements outlined in the ONMMP. The applicable operational noise criteria are outlined in the Project Approval (No. 09_0186), the OEMP and the ONMMP. The criteria are summarised as follows:

> *The cumulative operational noise from the ash placement area and ash haulage activity shall not exceed a $L_{Aeq\ (15\ minute)}$ dBA as defined in condition E7 and identified in Table 6.*

***Table 6 Operational Noise Criterion (LAeq(15 minutes) dB(A))***

| Location | Day (7am - 6pm) | Evening (6pm - 10pm) | Night (10pm – 7am) |
|---|---|---|---|
| All sensitive receivers within the township of Blackmans Flat | 42 | 38 | 35 |
| 2.Blackmans Flat (west of Castlereagh Highway) | 42 | 38 | 35 |

*This criterion applies under all meteorological conditions except for any of the following:*

a) *Wind speeds greater than 3 m/s at 10 meters above ground;*
b) *Stability category F temperature inversion conditions and wind speed greater than 2m/second at 10m above ground level; and*
c) *Stability category G temperature inversion conditions.*

### 4.4.2 Environmental Performance

The Lamberts North Operational Noise Review in October 2013 was performed within 60 days of the commencement of the operation of the Project in consultation with the EPA and submitted to the Director-General in accordance with CoA E11. The Noise review indicated that the relevant requirements of CoA E11 of the

Minister's approval had been met. The recommendations, as outlined in Section 6 of the Operational Noise Review (Aurecon, 2013), to minimise noise emissions and ensure ongoing noise compliance were endorsed by the EPA and were addressed in the Site Management Plan (Lend Lease, 2012).

Aurecon was engaged by EnergyAustralia NSW to carry out ongoing noise monitoring for the Lamberts North Ash Placement Area, located immediately to the east of the existing Mt Piper Ash Repository (2014b; 2015a). The noise measurements were performed on two occasions – in September 2014 and March 2015. Noise monitoring for Lamberts North was performed as per the OEMP insofar that it was conducted at the two most affected sensitive receiver locations to measure the increase in noise to ensure that it satisfies the requirements defined in Condition E7 and the ONMMP. Routine noise monitoring conducted for the ash placement operations at Lamberts North was used as a benchmark for noise during normal operations versus noise generated from other activities; and evening periods were taken into account, as per the requirements outlined in the Lamberts North ONMMP. Detailed results of continuous noise measurements are shown in Appendix D and E.

The September noise monitoring report (Aurecon, 2014b) found that:

- *The primary contributor to the background and ambient noise levels at location 1 was the traffic noise on the Castlereagh Highway and activities at Mt Piper Power Station. There was no audible noise from the western direction (i.e. Centennial Coal, Springvale Mine, etc.) during the site attendance. Instantaneous noise level was measured in the range of $L_{AF}$ 54-55 dBA when a vehicle was passing on the Castlereagh Highway. $L_{Amax\ 15min}$ of 60-72 dBA was due to local domestic noise and birds and insects.*
- *Background noise at the rural residential location 2 was relatively low compared to Location 1. There was constant unidentified noise (similar to low frequency engine noise) originating from south-eastern direction at this location, which contributed to the background noise during the entire measurement period, including insect noises. Noise contribution during the evening time period included noise from insects and birds. Other sources of ambient sound include: natural sounds (from wind noise, insects, bird/wildlife, etc.) and distant vehicle traffic noise. Given the vast buffer distance of at least 2.5 km between the location 2 rural residential dwelling and Lamberts North, and the intervening topography, the operational noise impact at this location seems to be minimal or insignificant.*
- *From the site observation at the south-eastern site boundary of Lamberts North, noise emissions from operational equipment on Mt Piper site was clearly audible. The noise varies and includes sources such as sirens from opening of ash bin gates, engine noise from dump truck, reverse beeps from excavator, bucket bangs of excavator, loading of ash in dump truck.*
- *Generally there were no operational activities after 18:00 until 06:00 at Mt Piper and Lamberts North ash sites.*

The maximum predicted noise contribution resulting from the operation of five equipment plant at the Lamberts North site at Locations 1 and 2 were determined to be 38 dB(A) and 33 dB(A), respectively.

As evidenced from Table 7, noise associated with the operational activities at Lamberts North complied with the day, evening and night time noise criteria at both the representative locations for the September noise monitoring.

***Table 7 Summary of predicted noise level against the noise criteria (dBA) – Sept 2014***

| Location | Predicted Noise | Day limit 42 dBA (07:00-18:00) | Day limit 38 dBA (18:00-22:00) | Night limit 35 dBA (22:00-07:00)^ |
|---|---|---|---|---|
| 1.Blackman's Flat | 38 | ✓ | ✓ | ✓ |
| 2. Wallerawang | 33 | ✓ | ✓ | ✓ |

*^ No operational activity during evening and night time periods.*

The results for the March 2015 noise monitoring report (Aurecon, 2015a) were similar to those of the September 2014 noise monitoring, with the following exceptions:

- *The ambient noise at location 1 included local domestic noises (e.g. dogs barking, conversations etc.). Reverse beeping from mobile plant originating from north-western direction (Mt Piper Power Station) was occasionally audible during the Sunday day measurement. Instantaneous noise level was measured in the range of $L_{AF}$ 58-52 dBA when a vehicle was passing on the Castlereagh Highway. Birds and insects contributed to the $L_{Amax\ 15min}$ of 62-71 dBA in the day/evening/night time.*
- *Background noise at the rural residential location 2 was relatively high compared to Location 1 especially during the evening and night time measurements. There was constant unidentified noise (low frequency hum) originating from south-eastern direction at this location, which contributed to the background noise during the entire night time measurement period. The unidentified noise could be from the Springvale Coal mine but was not confirmed. Based on sound localization using binaural hearing during the attended measurement, there was no evidence of noise originating from north-western direction, thus indicating that noise contribution from Lamberts North to the overall equivalent sound pressure was negligible.*
- *There were no operational activities after 17:00 until 06:00 at Mt Piper and Lamberts North ash sites.*

The maximum predicted noise contribution resulting from the operation of five equipment plant at the Lamberts North site at Locations 1 and 2 were determined to be 38 dB(A) and 33 dB(A), respectively.

As evidenced from Table 8, noise associated with the operational activities at Lamberts North complied with the day, evening and night time noise criteria at both the representative locations for the March noise monitoring.

*Table 8 Summary of predicted noise level against the noise criteria (dBA) – March 2015*

| Location | Predicted Noise | Day limit 42 dBA (07:00-18:00) | Day limit 38 dBA (18:00-22:00) | Night limit 35 dBA (22:00-07:00)^ |
|---|---|---|---|---|
| 1.Blackman's Flat | 38 | ✓ | ✓ | ✓ |
| 2. Wallerawang | 33 | ✓ | ✓ | ✓ |

*^ No operational activity during evening and night time periods.*

Based on the noise surveys conducted at the predetermined locations and noise prediction, the operational noise resulting from the operation of equipment and mobile plant at the Lamberts North site comply with the *OEMP* Lamberts North Ash Placement Project – Operational Environmental Management Plan (CDM Smith, 2013) at the representative residential receivers at Location 1 and Location 2. Consequently potential noise impacts from the operation of Lamberts North are considered to be effectively mitigated and managed, with no noise complaints received for the Lamberts North ash placement area during the second year of operations. Detailed results and comments are available in Appendix D and E.

#### 4.4.3 Reportable Incidents

No reportable incidents or complaints have been recorded against operation noise management for the reporting period.

#### 4.4.4 Further Improvements

No further improvements have been identified for the next reporting period.

## 4.5 Groundwater Monitoring

#### 4.5.1 Environmental Management

The Groundwater Management and Monitoring Plan (GMMP) is a sub-plan of the OEMP and seeks to address the specific requirements of the CoA D3 (b), E15 and E17. The hydrological monitoring program was incorporated into the GMMP because of the change in design to Lamberts North addressed in the Consistency Report (SKM, 2012). Groundwater modelling (CDM Smith, 2012a; 2012b) demonstrated that the water in Huons drain is largely groundwater from the intersection of Huons Void with the groundwater table. The groundwater model was able to determine that groundwater flows in a north easterly direction across the site. The GMMP is comprised of the following targets:

- The quality of water underlying the site is not impacted by the Lambert's North Ash Placement operations.

Performance criteria:

- There will be no significant long-term variation in groundwater quality from historical baseline quality values (as measured from existing monitoring wells on site) that are attributable to ash placement operations at Lamberts North (data available in OEMP Appendix B Table 7-4).

Groundwater Water Quality Monitoring will be analysed at a NATA Accredited Laboratory by a qualified professional.

The GMMP provides for the requirements for the ongoing groundwater monitoring program in accordance with CoA E15. The GMMP was established and implemented in October 2012 prior to construction activities and in addition to the existing monitoring regime for Mt Piper ash repository. Water samples taken at the bores-MPGM4/D1, D8, D9, D10, D11, D15, D16, D17, D18 and D19 provide information about groundwater flow under Lamberts North ash placement area within the Mt Piper ash repository (Figure 3). The GMMP provides the procedures and protocols that apply to the monitoring and testing of water quality and involves monthly sampling of existing long-term bores associated with Mt Piper ash repository and new bores located south of Huon Gully. Bore D9 is found outside the ash placement area and east of Huon Gully and south of Neubecks Creek and bore D8, north of Neubecks Creek. The Mt Piper ash placement area bores (MPGM/D10 and D11) on the western side of the ash placement area are used to monitor inflows from Mt Piper to the Lamberts North placement in Huon Gully. Bore D1 is north of Huon Gully and is used to detect seepage from the north-eastern Mt Piper brine placement. The groundwater bores D1, D8 and D9 are used to detect and warn of leachates that may enter Neubecks Creek. The GMMP also provides a contingency plan for events that have the potential to pollute or contaminate groundwater.

### 4.5.2 Environmental Performance

The Water Quality Monitoring Report for September 2014 to August 2015 (Aurecon, 2015b) aimed to:

- Report on the potential effects on receiving surface waters and groundwater.
- Review the consultant report on the aquatic life changes in Neubecks Creek.

The assessment of groundwater quality found that:

- No adverse effects of the Lamberts North site could be identified and no ameliorative measures are indicated.
- There was no notable change in trace metals within bores D1 and D9 that could be associated with Lamberts North ash placement operations. The increases for boron, nickel and zinc at bore D1 may be due to the changed conditions in the mine groundwater flowing under the Mt Piper ash placement, with the lower rainfall recharge, which is expected to become clearer with the installation of additional groundwater bores in late 2015.

- Other than the salinity, sulphate, iron and manganese concentrations at bore D9, all of the ANZECC groundwater guideline trigger values and local goals were met at the receiving water bore D9, while all the concentrations at bore D8 were lower than the trigger values. The small chloride increase at bore D8 indicates that some of the chloride reaching bore D9 has flowed under Neubecks Creek, via the coal seam (see Figure 7), to reach the groundwater sampled by D8.

Detailed results and comments are available in Appendix F. Based on site observations and information reviewed potential groundwater impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

#### 4.5.3 Reportable Incidents

No reportable incidents have been recorded against groundwater managed for the reporting period.

#### 4.5.4 Further Improvements

Further improvements have been identified for the next reporting period and are as follow:

- Collect 12 months of groundwater data at the two Lamberts North bores once they have been installed at the northern embankment wall
- Continue to measure groundwater height and water quality to assess the effects, if any, of the ash placement area on the groundwater quality at the receiving water sites.
- Assess the data for effects, if any, of rainfall infiltration through the ash placement, dust suppression sprinkler water infiltration and rainfall runoff seepage through the bottom of a temporary unlined pond in the ash area
- Determine the effects, if any, of the total infiltration on groundwater quality at the receiving water sites
- Investigate the necessity for the UTS Mt Piper Groundwater model to be re-formulated and re-run, if required, to include the Lamberts North Area.
- Update the OEMP to include the new groundwater bores

## 4.6 Soil and Surface Water Quality Monitoring

#### 4.6.1 Environmental Management

The Soil and Surface water quality Plan (SSWMP) is a sub-plan as outlined in the OEMP and addresses the specific requirements of the CoA D3 (c) and E16. The SSWMP addresses soil and water cycle management on site, including a surface water monitoring program at receiving waters is comprised of the following targets:

- The water quality at Neubecks Creek is not impacted by Lamberts North ash placement operations;
- Zero environmental incidents that relate to pollution of waters at Neubecks Creek.
- Erosion to be effectively managed on site and not have an influence and/or impact on surrounding lands outside the boundary of Lamberts North.

Performance criteria:

- Surface water monitoring results at Neubecks Creek will indicate no significant variations from historical baseline data.
- Ecological results at Neubecks Creek will indicate no significant variation from historical baseline data.
- No visual evidence of erosion and sedimentation impacts on Neubecks Creek following significant rainfall events.

All runoff water falling on Lamberts North is contained in clean and dirty water sediment ponds and forms the primary source of water for dust suppression on exposed ash and capped areas as well as irrigation of the revegetated areas. The CoAs stipulate that a monitoring program must be implemented to record and observe water quality and potential impacts from repository operations on regional surface waters. The Operational Environment Management Plan for Lamberts North requires sampling at three locations (Figure 3)- Mt Piper licenced monitoring point LDP01, Neubecks Creek (WX22) and upper Neubecks Creek (NC01), to ensure operations are not impacting on catchment surface waters, and to comply with Section 120 of the *Protection of the Environment Operations Act 1997* and subsequently Mt Piper's EPL.

As the aquatic life in Neubecks Creek is required to be monitored, turbidity, nutrients, dissolved oxygen and temperature are included in the monitoring program. Changes in the water quality and trace metals at Neubecks Creek receiving water site (WX22), from pre- to post- placement were examined in the Aurecon Water Quality Monitoring Report.

### 4.6.2 Environmental Performance

The Aurecon Water Quality Monitoring Report for September 2014 to August 2015 (Aurecon, 2015b) aimed to:

- Report on the potential effects on receiving surface waters and groundwater.
- Review the consultant report on the aquatic life changes in Neubecks Creek.

The assessment of surface water quality found that:

- Any effects on local surface water from the Lamberts North water conditioned ash site could not be distinguished from the current Mt Piper effects or the effects of background inputs from local mine water and mine spoil/coal wastes. Accordingly no adverse effects of the Lamberts North site could be identified.
- Other than copper, turbidity and total nitrogen at the upper Neubecks Creek background site (LDP01), all the water quality and trace metal concentrations met the local and ANZECC (2000) guidelines for surface water at the sampling sites. Since copper was not elevated at down-stream site of NC01, the high copper at LDP01 appears to be from a local, upper Neubecks Creek source.
- Low level spikes in salinity and chloride, as well as recent low level spikes for boron, manganese, nickel and zinc at NC01 have been highlighted. Since the sampling site, NC01, is located adjacent to the northern area of the Mt Piper ash placement, these increases could indicate rainfall runoff from the large area of mine spoil used to cap the northern Mt Piper ash area. Mine spoil leachates have elevated concentrations of salinity and chloride, as well as some trace metals, but the spikes in concentrations in the creek for all the parameters highlighted were well below the local/ANZECC trigger values for surface water.

- The recent, moderate spikes observed for chloride, nickel and zinc at WX22 were all higher than the spikes at NC01, indicating that they may be due to brine leachate enriched coal mine groundwater inflows from Mt Piper via Huon Gully. However, the concentrations of the spikes were well below the local/ANZECC trigger values

  Bore D9, which is located adjacent to Neubecks Creek, has elevated concentrations of chloride, as well as salts, and for nickel, while bore D19, in the coal washery waste area, has elevated concentrations of zinc (see Table 4). Hence, it is possible that these sources are the cause of the spikes observed. However, there had been no significant rainfall for two months before the sampling and it is likely that the low stream flows during dry weather caused the concentrations in the pond behind the weir at WX22 to be increased by evaporation. The concentrations at WX22 have been well below the local/ANZECC surface water trigger values for about 90% of the time since monitoring began in October, 2012 and, during the 2014/15 reporting period, all the water quality and trace metal concentrations at WX22 were lower than the trigger values.

The assessment of surface water quality can be found in Appendix F.

The changes shown during the relatively short pre- to post-placement period demonstrate that the complexity and intermixing of local surface water makes it difficult to differentiate between impacts of Lamberts North to other sites and whether or not the Lamberts North ash placement has affected Neubecks Creek.

Based on site observations and information reviewed potential surface water impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

#### 4.6.3 Reportable Incidents

No reportable incidents have been recorded against surface water management for the reporting period.

#### 4.6.4 Further Improvements

Further improvements have been identified for the next reporting period as:

- Continue to assess the effects, if any, of the total infiltration on surface water quality at the receiving water sites.
- Update the OEMP to have nitrate concentrations in Neubecks Creek monitored with detection limits that are lower than the ANZECC (2000) guidelines for protection of aquatic life.

## 4.7 Hydrological Monitoring

The hydrological monitoring program was incorporated into the GMMP because of the change in design to Lamberts North addressed in the Consistency Report (SKM, 2012), as indicated in Section 5.5.

## 4.8 Ecological Monitoring

### 4.8.1 Environmental Management

The Ecological Monitoring Program (EMP) of the OEMP seeks to address the specific requirements of the CoAs. The EMP provides for the requirements for the monitoring of aquatic ecology, in particular macro-invertebrates aquatic habitat in accordance with CoA B7. The ecological monitoring program was implemented in November 2012 prior to construction activities and then during construction in April 2013. Two sample sites were included in the program, NCR1 downstream of surface water discharge point and NCR2 which is downstream of the gauging site (WX22). The EMP aims to monitor and quantify the impacts on the ecology of Neubecks Creek and the associated riparian environment. The initial two reports included background information on the aquatic ecology of Neubecks Creek including the results of AUSRIVAS sampling and the assessment of aquatic habitat at both sampling sites. The reports assessed whether impacts to the aquatic ecology of Neubecks Creek may have occurred following the baseline study. The program also provides a contingency plan for events that have the potential to pollute or contaminate groundwater.

The Ecological Monitoring Program is comprised of the following performance targets:

- The water quality at Neubecks Creek is not impacted by Lamberts North ash placement operations.
- Zero environmental incidents that relate to pollution of waters at Neubecks Creek.
- Erosion to be effectively managed on site and not have an influence and/or impact on surrounding lands outside the boundary of Lamberts North.

Performance criteria:

- Surface water monitoring results at Neubecks Creek will indicate no significant variations from historical baseline data.
- Ecological results at Neubecks Creek will indicate no significant variation from historical baseline data.
- No visual evidence of erosion and sedimentation impacts on Neubecks Creek following significant rainfall events.

### 4.8.2 Environmental Performance

As the aquatic life in Neubecks Creek is required to be monitored, changes in the water quality and trace metals at Neubecks Creek receiving water site (WX22), from pre- to post- placement were examined in the Aurecon Water Quality Monitoring Report (Appendix F). The Aurecon Water Quality Monitoring Report for September 2014 to August 2015 (Aurecon, 2015b) aimed to:

- Review the consultant reports Neubecks Creek-Ecological Monitoring Program Report (Cardno, 2015) on the aquatic life changes in Neubecks Creek.

The study found that the biotic community results were similar to those found by GHD (2014) from spring 2012 to autumn 2014, in that the biotic indices from the AUSRIVAS assessment showed no significant differences, other than that likely the result of ephemeral flow effects, between the upstream and downstream sites in Neubecks Creek during the spring 2014 sampling. These findings are consistent with the water quality and trace metal concentrations meeting the local and ANZECC trigger values, insofar that operations at Lamberts North appear to be having no significant effect on the water quality and aquatic life at the receiving water site, WX22.

Following last year's report, a review of the Ecological Monitoring Program was recommended after the groundwater levels inside the ash placement area are known and the potential effects on receiving waters are better understood. This is expected to be undertaken during 2016.

Based on site observations and information reviewed potential impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

#### 4.8.3 Reportable Incidents

No reportable incidents have been recorded against surface water management for the reporting period.

#### 4.8.4 Further Improvements

Further improvements as recommended in a critical review of and within the Neubecks Creek EMP (Cardno, 2015) have been identified for the next reporting period as:

- Monitor nitrate concentrations in Neubecks Creek with detection limits that are lower than the ANZECC (2000) guidelines for protection of aquatic life.
- Continue planned spring ecological monitoring.

## 4.9 Air Quality Monitoring

#### 4.9.1 Environmental Management

The Air Quality Management Plan (AQMP) is a sub-plan of the OEMP and seeks to address the specific requirements of the CoA relating to air quality. The AQMP provides for the requirements for the air quality monitoring program in accordance with D3 (d) and E18.

The Repository Site Management Plan (Lend Lease, 2015a) for Lamberts North operations proposes an Implementation Strategy in accordance with the Air Quality Monitoring Program, as required under the Projects CoAs and as outlined in the OEMP. The strategy includes specific site management pertaining to the transport and emplacement of ash, managing dust within the ash repository using an extensive sprinkler system and water cart applications, and continuous monitoring for dust/airborne particulates. Sprinklers and compaction are used to minimise fugitive dust from the Lamberts North ash placement area. Water trucks are used to manage fugitive dust from the haul roads.

Dust management within the site is also included in the responsibilities of all operations, including:

- Daily monitoring from weather station.
- Fly ash conditioning.
- Irrigation- sprinkler use. Water use target 54$m^3$/ha per day as 1800 litres per sprinkler per day.
- Water cart- wash-down of security roadways, haul road/s and vehicle access roads.
- Static dust monitors (4 g $m^{-2}$ $month^{-1}$ trigger level for site Units: g $m^{-2}$ $month^{-1}$).
- Ash placement operations
- Final and temporary capping of ash; and
- General maintenance of the ash placement area (Lend Lease, 2015a).

Dust suppression is a primary performance objective for ash placement activities. Dust suppression concerns all aspects of exposed ash and ancillary aspects of vehicular traffic during permanent capping and other activities. The primary dust suppression method on exposed ash is the use of sprinklers with water sourced from wash down ponds and the blow down towers. Sprinklers are also used for haul roads. Water source, volumes and sprinkler numbers are monitored daily by Lend Lease and reported to EnergyAustralia NSW on a monthly basis.

Areas without sprinkler coverage are managed using a water cart. Water cart coverage is also used for auxiliary roads. Water cart work procedures are defined in Lend Lease documentation (MP-WW-PC-712.6.6) as a plan and work procedure.

#### 4.9.1.1 Sprinklers and Pumps

Details of methods associated with sprinklers and pumps are provided by work procedures *Sprinkler Technician Duties* MP-PC-712.3.1 and *Sprinkler System Operation* MP-PC-712.3.2 and in the Lend Lease monthly instructions. The primary performance objective for sprinklers and pumps are their availability and their use, together with appropriate application rates for the aspect of infiltration in order to mitigate an environmental incident. Records of use keep by staff undertaking environmental duties. This is done on a daily basis.

Dust suppression – Lamberts North sprinkler system

Water application (measured in sprinkler hours) is based on wind velocity, humidity and temperature. The water used for dust suppression in Lamberts North is sourced from the Mt Piper cooling water system- no clean water is used in this application.

The Repository Management Plan (Lend Lease, 2015a) provides a guide for sprinkler hours at an optimum of 4 hours per day during low evaporation at less than 3 mm per day to ensure that a target of 5 mm by irrigation application is not exceeded (Table 9).

*Table 9 Guide for sprinkler hours*

| Water use guidelines | Water use guidelines |
|---|---|
| >25° >20km/hr (10hrs/day) | 15° <20km/hr (<4 hours/day) |
| 15-24° <20km/hr (8 hrs/day) | |
| 15° <20km/hr (4 hours/day) | |
| **Evaporation 3-7 mm per day** | **Evaporation < 3 mm per day** |
| Oct, Nov, Dec, Jan, Feb, Mar, | April, May, June, July, Aug, Sept |

* Operation of sprinklers in extreme hot and dry conditions requires extended irrigation hours

#### 4.9.1.2 Air quality monitoring

Air quality monitoring is undertaken on a continuous basis. A Tapered Element Oscillating Microbalance (TEOM) (TSP/$PM_{10}$) is located in the northern end of Lamberts North and five dust gauges are located at various locations around the Mt Piper site and near Lamberts North. PM10 and PM2.5 are measured using one ambient monitor (high volume) Air Quality Monitoring Station (AQMS). The AQMS is located at Blackmans Flat. Dust monitoring results are recorded monthly with colour and textural observations.

Data from these depositional dust gauges, TEOM and AQMS provide a comprehensive assessment of potential dust impacts from Lamberts North Ash Repository.

Performance indicators recommended in the OEMP for air quality monitoring are as follows:

- Increase in Total Suspended Particulates (TSP) by > 2g/m2/month to a maximum of 3.5g/m2/month at dust deposition gauges outside the ash placement area; and
- PM10 annual average is <30µg/ m3 and 24 hour maximum does not exceed 50µg/m3

### 4.9.2 Environmental Performance

#### 4.9.2.1 Dust suppression – Lamberts North sprinkler system

Figure 4 reflects a relationship between sprinkler application and evaporation to identify that the target or maximum application rates for irrigation at 5 mm / day was achieved. Net irrigation was calculated by subtracting the daily evaporation from the daily sprinkler irrigation rate.

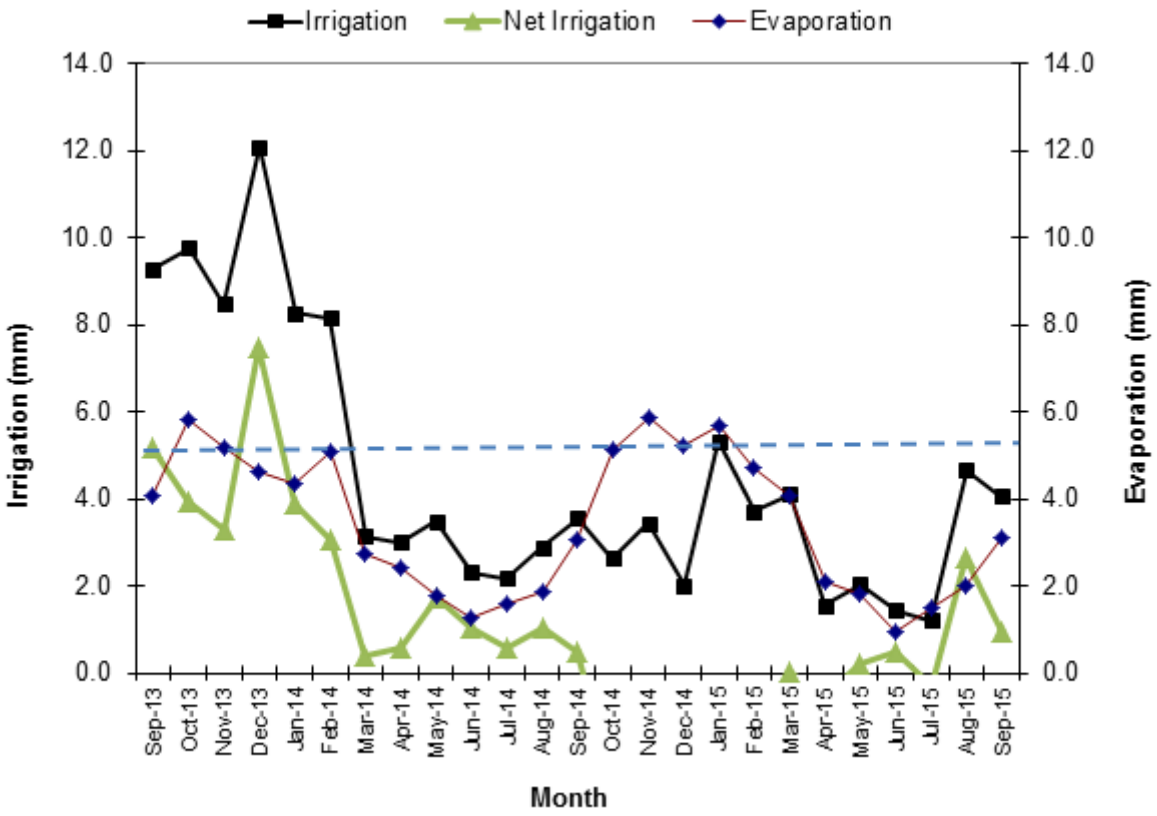


***Figure 4 Efficacy of irrigation operations September 2013 – August 2015***

#### 4.9.2.2 Air Quality monitoring

EnergyAustralia NSW undertakes dust monitoring using a series of ambient dust deposition gauges outside the Mt Piper Ash Repository including Lamberts North area, closer to residential areas. The locations of these offsite dust monitors are depicted in Figure 5.

Data from these depositional dust gauges provide a comprehensive assessment of potential dust impacts from Lamberts North Ash Repository. The current Mt Piper Ash Repository Lamberts North Air Quality Report (EANSW, 2015a) is provided in Appendix G and presents the dust data collected in the second year of operations of Lamberts North, from September 2014 to August 2015, and reviews the results against the requirements of the OEMP. The Annual Air Quality report also reviews the annual PM10 and PM2.5 data.

Dust gauge data from the 2014-2015 reporting period indicate that Lamberts North operations have not resulted in dust deposition above the OEMP levels that trigger the requirement to implement additional control measures. An exceedance of the OEMP level was recorded at dust gauge 21 for the month of April 2015. However, investigations found that this reading was significantly and anomalously higher than at the other 4 OEMP dust

gauges and given the location of gauge 21, adjacent to a public road, human interference in the operation of the dust gauge could not be ruled out. Additionally, the wind was blowing in a North-easterly direction – Gauge 21 is located 1900 m to the North-west of Lamberts North. Therefore, it was determined that the exceedance at dust deposition gauge 21 was not a result of ash placement within Lamberts North but from other unknown sources.

Investigations also showed that an exceedance also occurred during the month of April 2015 at Dust Gauge 24. This gauge is located within the Mt Piper Ash Placement Area approximately 430 m from the Lamberts North ash placement area, but is not included in the OEMP network. Two Lend Lease dust gauges, both located approximately 50 m from dust gauge 25, recorded low values of insoluble material for the same time frame. Since no other monitors located in the immediate vicinity of Gauge 24 recorded elevated levels, the high dust recorded in Gauge 24 was isolated to within 20 m of the gauge and could, therefore, was determined to not be the result of operations at Lamberts North.

Ambient air quality monitoring data has shown that the particulate emissions are generally well within the average TSP concentrations of 90µg/$m^3$ predicted in the Environmental Assessment. The daily and monthly data suggest that the actual impact on the sensitive receivers is no more than what was predicted. PM10 at Blackmans Flat Air Quality Monitoring Stations (AQMS) did exceed the 24 hour maximum on one occasion – the 6$^{th}$ May 2015. However, Lend Lease operations were focused on brine co-placement at the Mt Piper Stage 1 and not in Lamberts North on this date. In addition, the wind was coming predominantly from the South-west, which would indicate that the source of PM10 particulates would not be from Lamberts North as Lamberts North is situated to the north-west of the AQMS. Therefore, the high level of PM10 particulates recorded on the 6$^{th}$ May 2015 must be from another source or sources.

Records show that NSW experienced extremely poor air quality at the beginning of May 2015, with maximum wind gusts of 42 km/hr and 30 km/hr, recorded on the 5$^{th}$ and 6$^{th}$ May, generating dusty conditions. A dust-storm was also reported in south-western New South Wales on the 5$^{th}$ May, with dust driven by south to south-westerly winds reaching Sydney and the Illawarra region by the 6$^{th}$ (BOM, 2015). As such, it is expected that the recorded exceedance for PM10 at Blackmans Flat AQMS was the result of the dust storm that affected NSW on the 5$^{th}$ and 6$^{th}$ May 2015 and not ash placement operations at Lamberts North.

Conclusions and recommendations arising from the review of the air quality monitoring data collected during the second year of Lamberts North operations appear below. In undertaking this data review some comments and observations are made on the operation of the air quality management plan.

1. Annual average dust deposition results in the second year of the Mt Piper Ash Repository Lamberts North operations were below the criterion of 3.5 g/m2/month at 5 of the 5 Operation Environmental Management Plan (OEMP) gauges.

2. The dust gauge data from the second year of Lamberts North operations does not indicate that Lamberts North operations have resulted in dust deposition above the OEMP levels that trigger the requirement to implement additional control measures.

3. It is recommended that all reportable dust monitors are reviewed to ensure compliance with the Australian Standard.

4. The TEOM at Mt Piper PM10 annual average maximum of 30µg/$m^3$ has not been exceeded in the reporting period of September 2014 to August 2015. The PM10 24 hour maximum of 50µg/$m^3$ was not exceeded during the reporting period.

5. The AQMS at Blackmans Flat PM10 annual average maximum of 30µg/$m^3$ was not exceeded in the reporting period of September 2014 to August 2015. The PM10 daily average was greater than the 24 hour maximum of 50µg/$m^3$ on 1 day during the reporting period. After investigations the likely source of PM10 on these days is not from ash placement at Lamberts North but due to a dust storm that affected the whole of NSW.

6. The guideline PM2.5 annual average maximum of 8µg/$m^3$ has not been exceeded in the reporting period of September 2014 to August 2015. The PM2.5 daily average has not been greater than the 24 hour maximum guideline of 25µg/$m^3$ during the reporting period.

7. No complaints regarding dust emissions or air quality issues arising from Lamberts North were received by either EnergyAustralia NSW or the Lamberts North site contractor during the second year of Lamberts North operations.

8. It is considered that the monitoring and reporting requirements of the OEMP are being met.

These results indicate that Lamberts North is managed effectively for dust and as such is in compliance with CoA D3 (d) and E18. Based on site observations and information reviewed potential impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

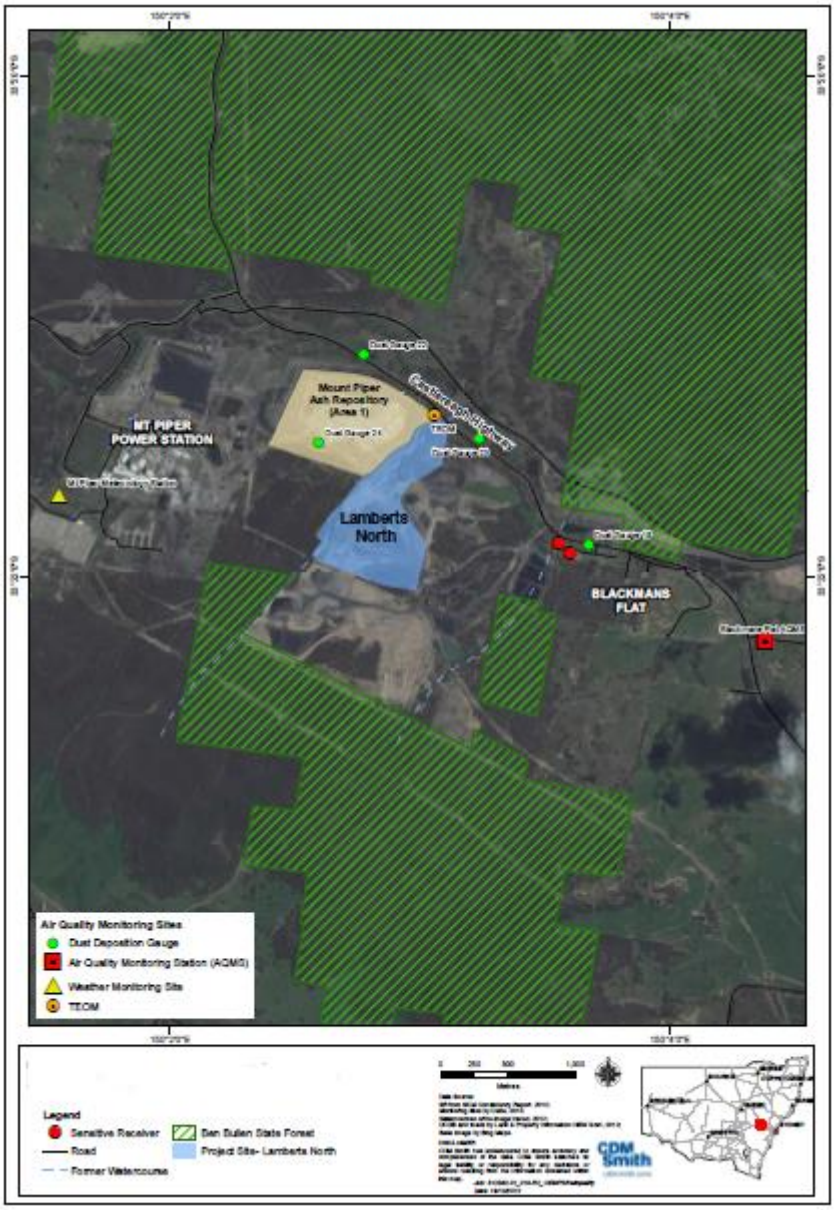


***Figure 5 Location of Lamberts North dust gauges***

### 4.9.3 Reportable Incidents

No reportable incidents have been recorded against air quality management for the reporting period.

### 4.9.4 Further Improvements

Further improvements have been identified for the next reporting period as:

- Review all reportable dust monitors to ensure compliance with the Australian Standard AS 3580.10.1.

## 4.10 Landscape and Revegetation

### 4.10.1 Environmental Management

The statement for landscape environmental management is provided in the Lend Lease Site MP-PL-701 Ash and Dust Repository and Brine Management Plan Mt Piper Power Station and Lamberts North Version 08, dated August 2014. This document has been developed in accordance with CoA D3e) and Section 6.7 of the OEMP.

The Mt Piper Ash Repository, including Lamberts North, has a series of comprehensive water management processes. All these affect the progress of Landscape and Revegetation.

- clean water (free of ash) off permanently capped batters and laybacks
- surface water from exposed ash
- groundwater inflows from the catchment
- irrigation and dust suppression water sources
- ash conditioning water sources
- groundwater outflows from the repository site.

The principle management aim is to mitigate risk against storm damage and the potential for uncontrolled flow patterns. Several basic operational objectives are involved:

1) detainment and containment

2) mitigation of all runoff over batters (internal or external)

3) control of slope to mitigate erosion

4) water reuse and recycling

The first level of detainment is initially derived using the ash placement benches, with off-flow-structures subsequently placed at intervals down-slope. Management structures include the use of grades at 1%, sumps or pond detentions. Items 1-3 (detainment, mitigation and control) provide for our primary principle of catchment management – that is to detain water high in the landscape. This applies to all areas, including completed and capped areas and it is necessary to develop a staged or cascade system with retention from the highest elevation. This has been our environmental operational policy since 2006 and detainment, mitigation and slope control are now a normal practice for the repository teams. Calculations indicate this control measure of integrated slopes and detentions built into the exposed ash placement benches will provide a buffer of up to 70 mm rainfall before this water when detained will need to flow across to runoff collection infrastructure.

Prior to 2006, the containments across the Mt Piper site were traditionally located at the base of the ash pads, to the east of the site and in basins naturally available. A lack of design management ultimately resulted in significant damage to benches and pads due to uncontrolled water flows. Since implementing the policy of detainment,

mitigation and slope control the losses of ash form due to wash-out damage has been reduced significantly. Consequently, there is a difference in management with ash movement is regarded as erosion and water movement is regarded as flow. Ultimately the principle for management is to promote controlled water flow rather than movement of ash or sediment with the latter associated with erosion.

The current management principle for water management is to construct ash benches so that water flow is directed (controlled) and that no water flows over or breaks a batter. Exit flows are solved by using each ash bench to contain water with where possible a controlled exit. Implementation of this principle has been successful since 2008 for the brine benches at RL 963 m covering the B1-B4 area of 5.2 ha. Retention is via a lined sump that can control and retain 70 mm rainfall duration without damage downslope with use of piped outflow.

### 4.10.2 Environmental Performance

A high level strategic plan is in place for future capping and rehabilitation of Lamberts North and will be reviewed as required. A more detailed Revegetation Strategy Plan for Lamberts North is not likely to be required for two to three years, when Lamberts North has reached a level where it can be contoured in with the batters on Mt Piper Area 1.

Lend Lease has commenced rehabilitation on the north east embankment of Lamberts North. Progressive revegetation will occur on the batters and laybacks as required as ash placement commences. The current rehabilitation practices appear to be effective with no evidence of major erosion issues on the embankments and laybacks.

Performance targets:

- Develop and reconstruct landscape to minimise the visual impacts of ash placement area by ensuring long-term stabilisation of the site and compatibility with surrounding landscapes through revegetation.

Performance indicators:

- Site inspections records to confirm ash placement and compaction targets are being achieved.
- Evidence of long-term water management plan that integrates the concepts of land revegetation mad rehabilitation
- Evidence of established revegetation and monitoring program to meet short and long-term goals
- Physical coverage of exposed ash on all external batters and boundaries capped with suitable material.

The majority of the OEMP requirements with respect to landscaping/revegetation were found to be not applicable given ash has yet to reach the design RL (940 m AHD). However, the interim landscaping/revegetation activities undertaken are considered to be in line with the relevant OEMP target, given the project's progress to date.

Based on site observations and information reviewed potential impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

#### 4.10.3 Reportable Incidents

No reportable incidents have been recorded against landscape and revegetation management for the reporting period.

#### 4.10.4 Further Improvements

No further improvements have been identified for the next reporting period.

## 4.11 Erosion and Sediment Control

#### 4.11.1 Environmental Management

The Soil and Surface water quality Plan (SSWMP) is a sub-plan as outlined in the OEMP and addresses the specific requirements of the CoA D3 (c) and E16. The SSWMP addresses soil and water cycle management on site, including a sediment and erosion control plan and is comprised of the following targets:

- Erosion to be effectively managed on site and not to have an influence and/or impact on surrounding lands outside the boundary of Lamberts North.

Performance criteria:

- No visual evidence of erosion and sedimentation impacts on Neubecks Creek following significant rainfall events.
- Establishment of procedures for maintenance of temporary and permanent silt and sediment control structures within the site.

Operational activities have the potential to increase sedimentation throughout the site. The OEMP details the mitigation measures to control sedimentation. The Project has strict controls in place to mitigate against impacts to the surrounding environment. A concept Erosion and Sediment Control Plan (ESCP) was developed as part of the Water Management System (WMS) for the Project. The Plan ensures appropriate controls are implemented to keep clean stormwater separate from water that has come into contact with ash on site during the operation period. All water falling on ash-exposed areas will be directed toward containment systems within the site, and reused.

Lamberts North ash operational activities have the following water management aspects:

- Clean water collected from permanently capped batters or laybacks, will be collected in a strategically located pond and either utilised for dust suppression and/or released to Neubecks Creek when required;
- Dirty water will be collected in sediment ponds strategically located within the ash placement site;

- Sediment from clean water detainments will be removed, when necessary as a part of standard maintenance practice;
- Dust suppression and irrigation water will be sourced from dirty and clean water ponds respectively, and various ponds available from Mt Piper Power Station to facilitate water reuse where possible;
- Sediment control techniques such as sediment control fences will be installed in areas prone to erosion;
- Slopes and batters will be properly engineered to control surface water runoff including the management and maintenance of surface drainage lines; and
- The project design will incorporate detainment and containment of surface water and erosion control.

Consequently, all surface water containment within the ash repository site will be engineered to ensure their location and size is appropriate and their operations are risk assessed.

### 4.11.2 Environmental Performance

Operations of Lamberts North are considered to have met the targets of the SSWMP including a sediment and erosion control plan as outlined in the OEMP. The following observations were made during the Independent Environmental Audit performed in September 2014 by Aurecon (Aurecon, 2014):

- Drainage channels separating clean and dirty water and the presence of surface water collection ponds.
- Design and management of the slopes and batters appeared to be effective with minimal erosion impacts evident.
- Rehabilitation on the embankments had commenced using mulch and tree planting with no evidence of excessive erosion during the inspection.
- Lend Lease are experimenting with contouring batters on Mt Piper Area 1 embankments to reduce flow of water to minimise potential sheet wash and for better slope control
- Daily, weekly and monthly inspections were being undertaken.
- Wet weather inspection checksheets (MP-SF-729A) for a 10.5mL wet weather event on 26/07/2014 and a 5.5 mL wet weather event on 18/08/2014 were observed.

In addition, the following findings were made during the Internal Environmental Audit performed in August 2015 by the Environmental Representative:

- Cooling water from Mt Piper Power Station forms the primary source of water for dust suppression and irrigation.
- Contractor employees are aware of designed structural plan, but no emergency procedure for a major erosion event exists.
- 10ML pond size may not be adequate to accommodate 50 year ARI event.

Based on site observations and information reviewed potential impacts from the operation of the Lamberts North Ash Repository have been effectively mitigated and managed.

#### 4.11.3 Reportable Incidents

No reportable incidents have been recorded against erosion and sediment control for the reporting period.

#### 4.11.4 Further Improvements

Further improvements as recommended within the Internal Audit (EANSW, 2015c) have been identified for the next reporting period as:

- Use of clean and dirty water ponds for dust suppression and irrigation prior to use of Mt Piper cooling water as detailed in the OEMP
- Develop Erosion and Sediment emergency procedure
- Ensure all employees and contractors are made aware of emergency procedure
- Investigate adequacy of pond sizes.

## 4.12 Waste Management

#### 4.12.1 Environmental Management

The Waste Management Plan (WMP) is a Sub Plan of the OEMP. It seeks to address the specific requirements of the CoA relating to waste, and the Environmental Protection Licence (EPL) 13007 for the Mount Piper Power Station. The WMP addresses waste management on site, including CoA D2 (g), E23, E24 and E25. It provides a framework for EnergyAustralia NSW, its contractors and vendors to manage waste and to minimise the potential for adverse impacts to sensitive receivers during the operation of the Project and is comprised of the following targets:

- To ensure waste at the Lamberts North Ash Repository is managed in accordance with the conditions of Environmental Protection Licence (EPL) 13007.
- To ensure waste generated on site is recycled or disposed of in accordance with this Sub Plan.

Performance criteria:

- No waste generated outside the premises (Mount Piper Power Station) is received at the premises for storage, processing, reprocessing or disposal, except as permitted by the licence.
- Evidence of a recycling system in use and site-generated waste being disposed of to an appropriate facility.
- Waste management details are recorded in the monthly environmental report.

Waste management is guided by the principle that waste shall not be disposed of at the ash repository, unless expressly permitted by the Environmental Protection Licence 13007. In addition, all waste materials are assessed, classified, managed and disposed of in accordance with Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes (EPA, 1999). Waste generated by site personnel (including maintenance wastes such as oils and greases) are collected on a regular basis by a specialist contractor to be recycled or disposed of at an appropriate offsite facility.

All employees including contracted staff involved in the Lamberts North operations are made aware of the waste management procedures as outlined in the OEMP sub-plan during their site induction and project specific briefings. Waste-related documents and records are developed to reflect adherence to these protocols, thereby providing the foundations for a transparent approach to waste management. The OEMP provides further guidance and detail on specific waste streams and applicable management measures (OEMP Section 6.8).

#### 4.12.2 Environmental Performance

Based on the Lend Lease Monthly Client Reports, information reviewed (including discussion with site security and the Security Manager) and site observations made, the operations of Lamberts North have met the OEMP targets for waste management for the 2014-15 year. OEMP requirements with respect to waste management were found to be complied with. No non-conformances were identified. No waste, other than ash, was placed in Lamberts North during the reporting period.

The OEMP requirements for waste management have found to be compliant.

#### 4.12.3 Reportable Incidents

No reportable incidents have been recorded against waste management for the reporting period.

#### 4.12.4 Further Improvements

No further improvements have been identified for the next reporting period.

## 4.13 Heritage Management

#### 4.13.1 Environmental Management

The CEMP provides guidance surrounding the management methods required to comply with CoA's.

#### 4.13.2 Environmental Performance

No additional Aboriginal and non-indigenous heritage sites were identified during the reporting period.

#### 4.13.3 Reportable Incidents

No reportable incidents have been recorded against heritage management for the reporting period.

### 4.13.4 Further Improvements

Further improvements have been identified for the next reporting period:

- The Independent Environment Audit (2014a) recommended that the EnergyAustralia NSW Land Management Plan be updated with the current record of the AHIMS sites.

# 5. Inspections and Audits

As stated in the OEMP, Environmental inspections will be undertaken by the Environmental representative and Site Manager, in accordance with the program outlined in Table 10. The inspections assist to identify areas where improvements to the environmental performance of Lamberts North operations can be achieved. Further detail is provided in section 3.6 of the OEMP. Reports from inspections undertaken are submitted to and reviewed by EnergyAustralia NSW monthly, with all areas discussed in detail during regular client/contractor meetings.

***Table 10 Environmental inspection program***

| Potential impact | Locations | Frequency | Reporting | Responsibility |
|---|---|---|---|---|
| General environmental impacts | Potential impacts listed in environmental plans and the environmental risk assessment | Daily | Site inspection report | Contractor |
| | | Weekly | Weekly environmental inspection checklist and monthly report | Contractor |
| Erosion and sedimentation | Potential erosion, surface water pollution | After a significant rainfall event (e.g. >25mm in 24 hours) | Site inspection report | Contractor |
| Air, noise and water | Various | As specified in plans | Weekly environmental inspection checklist and periodic monitoring reports | Contractor<br>EA NSW/specialist consultant |

Six monthly audits will be undertaken, in accordance with the AS/NZ ISO 19011:2003 - *Guidelines for Quality and/or Environmental Management Systems Auditing,* The audits will incorporate procedures for rectifying any non-compliance issues, and will provide mechanisms for recording environmental incidents and the subsequent actions taken.

### 5.1.1 Environmental Management

An independent Environmental Compliance audit was undertaken by a specialist consultancy in September 2014, following the first twelve months of operation in accordance with CoA E22. The independent specialist's report detailed actions proposed in relation to EnergyAustralia NSW's operational schedule and on-site activities, and included a review of compliance with all requirements under the Project Approval and the OEMP.

### 5.1.2 Environmental Performance

#### 5.1.2.1 Independent environmental audit

The independent environmental audit (Aurecon, 2014a) was carried out generally in accordance with the requirements of ISO 19011:2002 Guidelines for Quality and or Environmental Management Systems Auditing. The

audit found that the operation of Lamberts North was generally in compliance with the requirements of the approval and with the other licences and approvals that are applicable to the project. Two partial compliances were identified, along with a few opportunities for improvement, as detailed in Table 11. These indicate that EnergyAustralia NSW is generally compliant with Conditions of Approval, but requires some modification to ensure full compliance is obtained. At the time, it was acknowledged that EnergyAustralia NSW is still transitioning the website and documents which were prepared when Delta Electricity was the proponent. The partial compliances and opportunities for improvement can be characterised as administrative issues which can be easily rectified.

While the environmental performance of the project against the predictions made in the Environmental Assessment were found to be generally in agreement for most aspects, i.e. with impacts being no worse than what was predicted, it is noted that given the interactions between the Lamberts North ash placement activities, Mt Piper Area 1 ash placement and mining activities, it may be challenging to determine the actual impacts on groundwater, surface water and air quality as a result of ash placement in Lamberts North, as well as assessing the effectiveness of the environmental management measures to minimise potential impacts on groundwater and surface water.

However, the environmental management of the project, including environmental impact mitigation works were generally found to be effective. No complaints or incidents related to the Lamberts North ash placement have been reported during the first year of operation. Lend Lease has commenced rehabilitation of the northern embankment and minimal erosion of the embankments were sighted. The audit found that both Lend Lease and EnergyAustralia NSW have well established inspection schedules and the information was readily available during the audit. Monitoring programs as required by the OEMP and Conditions of Approval are in place and monitoring data is available.

EnergyAustralia NSW has an effective tool for recording complaints and incidents. Although no complaints or incidents related to the operation of Lamberts North were recorded during the first year of operation. The audit did review the adequacy of EnergyAustralia NSW's response to other complaints and incidents recorded in the Complaints Register. The responses and the timing to close out the complaint or incident were found to be adequate.

*Table 11 Findings from Independent Environmental Compliance Audit (Aurecon, 2014a)*

| No. | Ref. | Summary of Finding | Category | Recommendation | Proposed action | Responsibility | Planned Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| **1.** | 3.1 | Condition of Approval B10 requires the Proponent to establish and maintain a website for the provision of electronic information associated with the project. A project website is available for the Lamberts North Project which includes a link to the DPE website, which hosts the Environmental Assessment, Submissions report and Conditions of Approvals. However no other information relating to the project progress, for example the OEMP and newsletters is available | Partial C | It is recommended that non-confidential project related documentation is added to the website to ensure full compliance with this condition. | EA website to be updated to include the progress of project and OEMP. | Environment Officer | ~~07/10/2014~~ COMPLETE | EnergyAustralia NSW does not support the addition of the OEMP to the EA website. The progress of the project is discussed at the Quarterly Community Reference Group that will then be available on the EA website in a newsletter. |
| **2.** | 3.2 | Condition of Approval B11 requires that prior to the construction of the project, a 24 hour contact number(s), a postal address for written complaints and enquiries and an email address be available, which would then be available during construction and operation. Currently only a 24 hour contact number is available on the project website. | Partial C | It is recommended that the postal address and email address be added to the project website to ensure full compliance with this condition. It is acknowledged that an email and postal address was available during construction while the project was be managed by Delta Electricity and that the information from the Delta Electricity website is still being transferred onto the EnergyAustralia website. | The postal address and email address will be added to the EA website. A 1800 number will also be organised for the website. | Environment Officer | ~~30/10/2014~~ COMPLETE | Corporate were notified of the required update and have organised a postal address, email address and 1800 number. The website has been updated to contain the correct contact details. |

| No. | Ref. | Summary of Finding | Category | Recommendation | Proposed action | Responsibility | Planned Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| **3.** | 3.3 | Condition of Approval B11 requires that a Community Information Plan be prepared, which sets out the community communications and consultation processes to be undertaken during construction and operation of the project. The *Lamberts North Ash Placement Stakeholder Communications Plan* was prepared specifically for the project; however the document still references Delta Electricity and lists the Delta Electricity email address and website. | OI | The Communication Information Plan should be updated to reflect the new owners and ensure that all references to Delta Electricity and the previous Delta websites, email addresses are removed and replaced with relevant EnergyAustralia NSW information.<br>It is acknowledged that EnergyAustralia NSW has an active Community Forum and that the community are aware of the main EnergyAustralia NSW contact person with regards to community issues. | The CIP and associated links are to be updated to reflect EnergyAustralia NSW as the new owner. | Commercial Manager | 30/06/2016 | Update of the Communication Information Plan is underway. |
| **4.** | 3.4 | Condition of Approval D2 requires that the Proponent prepares and implements an Operational Environmental Management Plan (OEMP) to detail an environmental management framework, practices and procedures to be followed during operation of the project.<br>An OEMP was prepared for the project and approved by the Department of Planning while still under the management of Delta Electricity. The OEMP still reflects the Delta Electricity information, in particular websites and email addresses. | OI | It is recommended that the OEMP be updated to reflect the new owners and ensure that all references to Delta Electricity and the previous websites are updated. | The OEMP and the associated links are to be updated to reflect EnergyAustralia NSW as the new owner. | Environment Officer | 30/06/2016 | The OEMP is scheduled to be reviewed and updated in early 2016. |

| No. | Ref. | Summary of Finding | Category | Recommendation | Proposed action | Responsibility | Planned Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| **5.** | 3.5 | Condition of Approval E2 refers to emergency situations when ash placement operations can occur outside of standard workings hours. E3 to E6 outlines the reporting requirements in the even that emergency ash haulage is required. | OI | Lend Lease has an Emergency Plan within their Environmental Management Plan which covers emergencies related to the ash and dust plant, however it does not specifically include the procedure for out of hours operation.<br>It is recommended that an emergency plan specifically related to ash placement outside regular hours be developed and includes a flow chart within Lend Lease document *"Ash Placement Area Emergency Procedure MP-PC-736*" covering the conditions of approval E2 – E6 to make the procedure easier to follow. | The Lend lease Emergency Plan is to be updated to include out of hours operation at Lamberts North and associated planning. | Contractor | ~~30/10/2014~~ COMPLETE | Lend Lease have updated their Emergency Plan in accordance with this recommendation. |

| No. | Ref. | Summary of Finding | Category | Recommendation | Proposed action | Responsibility | Planned Completion Date | Status |
|---|---|---|---|---|---|---|---|---|
| **6.** | 6.1 | The Environmental Assessment states that no Aboriginal sites would be affected at Lamberts North or Lamberts South study areas as part of the Mt Piper Ash Placement Project. The proximity of the two previously recorded sites will require the use of appropriate measures to avoid any inadvertent impact. | OI | The Environmental Assessment (SKM, August 2010) lists AHIMS sites that have been labelled with "permit to destroy". The Land Management Plan (23/01/2014) also includes a list of AHIMS items, however these sites were not identified by site number and it unclear whether these are the same sites previously identified. It is prudent to ensure that the sites are correctly identified and consistent with what was identified in the Environmental Assessment to ensure that the sites are no inadvertently impacted in the future. | The land management plan is to be updated to correctly identify the sites. | Environment Officer | 30/06/2016 | Review and update of Land Management Plan scheduled for early 2016. |
| **7.** | 6.2 | The Environmental Assessment states that Locations 1, 2 and 4 would experience no visual impact, and that visual impacts from Locations 5 and 6 would be low to moderate, given their proximity to the proposed development and existing land use. | OI | Figure 5.1 in the OEMP currently includes the locations for dust gauges, boreholes, surface water monitoring sites and two noise monitoring locations. It is recommended that this figure also displays all visual impact locations. These are identified as viewpoints 1-6 in the Environmental Assessment. | The OEMP is to be updated to include Locations 5 and 6 on Figure 5.1. | Environment Officer | 30/06/2016 | The OEMP is scheduled to be reviewed and updated in early 2016. |

#### 5.1.2.2 Six- monthly audit

Desktop audits have been performed on a monthly basis by the contractor and are summarised in their Monthly contractor review (Lend Lease, 2014; 2015b). The desktop audits have been performed in accordance with the AS/NZ ISO 19011:2003 - *Guidelines for Quality and/or Environmental Management Systems Auditing* and review the contractor's performance in accordance with their EMS, the implementation of the OEMP and effectiveness of the management measures.

Table 12 provides an example of the findings from the monthly desktop audit, reported to the Contract Administrator during the monthly contractor review in June 2015.

***Table 12 Summary of findings from monthly desktop audit for June 2015 (Lend Lease, 2015b)***

| Item No. | Category | Performance Criteria | Performance Result | Comments/Actions | Status |
|---|---|---|---|---|---|
| **Ash Placement** | | | | | |
| 1a | Ash Placement | As per repository management plan | Brine Ash = 1/6/15 to 15/6/15 (15 days)<br>Fresh ash to Lamberts North = 15 days | Nil | N/A |
| b | Ash Tonnage | Ash to Repository | 21,417 | Includes ash placed in MPA 1 | |
| c | Ash Moisture | Optimum Moisture Content<br>Fresh Water = 18-20%<br>Brine Water = 14-16% | Optimum Moisture Content<br>Fresh Water = 18.7%<br>Brine Water = 16% | | Compliant |
| d | Field Compaction Testing | DCP values not less than 3<br>Test results report weekly assessment at two locations on the working pad, at depths of 0.6-0.7m | Week 1 (T1=6) (T2=4)<br>Week 2 (T1=12) (T2=11)<br>Week 3 (T1=17) (T2=5)<br>Week 4 (T1=6) (T2=9) | | Compliant |
| e | Compaction Testing | Dry Density ratio (DDR) - 95%<br>Fresh ash acceptable - 93%<br>Brine Ash - 95% | Monthly Average (DDR) = 95.2% | Testing at Lamberts North | Compliant |
| f | Survey of Stack Stability and Landform Monitoring | No slumping or movement | No evidence of instability or movement | | Compliant |
| **Air quality** | | | | | |
| 2a | Weather | Daily monitoring from weather station | Monthly Rain/Evaporation ~ 30.6 mm<br>Evaporation ~ 35mm | | Compliant |
| b | Water Use | Fly ash conditioning<br>Water Cart Use<br>Irrigation | Monthly Water Use:<br>Total Site = 16.9 ML<br>Irrigation = 5.86 ML<br>Fresh Ash Cond. = 4.7 ML<br>Brine Ash Cond. = 1.45 ML<br>Water Cart = 4.86 ML | | Compliant |

| Item No. | Category | Performance Criteria | Performance Result | Comments/Actions | Status |
|---|---|---|---|---|---|
| c | Static Dust | Static Dust Monitors<br>Insoluble Solids = 3.5 g $m^{-2}$ $month^{-1}$ trigger level for site<br>Incombustible Solids = 3.5 g $m^{-2}$ $month^{-1}$ trigger level for site | Monthly Dust Monitors:<br>Average (June)<br>Insoluble Solids = 0.73<br>Incombustible = 0.38 | | Compliant |
| d | Dust Suppression | Sprinklers & Water Carts Usage<br>Target = 5 mm/day | Total of 591 sprinklers installed across MPA1 & Lamberts North @ 366 L/day/sprinkler | Irrigation = 1.4 mm | Compliant |
| **Catchment** | | | | | |
| 3a | Ash Footprint Areas | Determination of catchment footprint (Annual Survey) | Total Footprint 65.3 ha<br>Fresh Ash = 8.3 ha<br>Brine Ash<br>Furnace Ash<br>Total Ash<br>Temporary capping<br>Permanent capping<br>Permanent capping no veg.<br>Total capping | Survey completed June 2015 | Compliant |
| b | Surface Water Management | Ash Contaminated Water contained within site boundary<br>Monitoring<br>Clean water off-site <50 mg $L^{-1}$ total suspended solids | No non conformance<br><br>Monthly<br>No water off-site. Pumping from CW Pond 1 into Lamberts North ponds. | | Compliant |
| **Groundwater** | | | | | |
| 4a | Groundwater Elevation | Geotechnical – vibrating wire piezometers Stack stability<br>Borehole piezometers<br><br>External locations to ash placement area<br>Within ash placement area<br>Infiltration to groundwater in brine area | Stable readings<br><br>D1, reduced to 2.05 stable and maintained at this level<br><br><br>Stable readings<br>Vibrating wire piezometers monitoring level at 923.28 m (Dry) | | Compliant |

The desktop audits have found that, throughout the reporting period, the contractors have maintained a high level of compliance with the requirements of the OEMP and the effectiveness of management measures. Based on the Lend Lease Monthly Client Reports, information reviewed and site observations made, the operations of Lamberts North have met the OEMP audit requirements for the 2014-15 year.

#### 5.1.2.3 Environment Representative audit

An internal audit was also performed by the Environmental Representative for the Project, in accordance with EnergyAustralia NSW's internal environmental audit program, and was undertaken throughout the operational phase within the Lamberts North Project area. Auditing was undertaken in accordance with the requirements of

the Environmental Management System, and in compliance with Condition B8 of the Project approval and the Operational Environmental Management Plan (OEMP) approved by the DPE.

The audit was performed in August 2015. The audit was conducted as a series of interviews on the following dates, with follow up documentation reviews as and when required:

- 27/08/2015: Interview with Contract Administrator and Contractor Environment Manager.

The scope of the audit was to assess the standard of compliance with documented requirements / procedure(s) and to make recommendations, where appropriate, to enable improved environmental performance. This internal audit was conducted as part of the internal audit program specified for EMSAP-16 Internal Audit.

Completion of the audit, using the Audit Checklist to record the audit findings following:

- Interviews with EnergyAustralia NSW personnel / contractors / suppliers;
- Examination of data, records, reports and checklists;
- Review of procedures and processes used;
- Field Inspections.

The Environmental Representative found a high level of environmental compliance was observed throughout the Lamberts North Project. This was evidenced not only during environmental reviews undertaken by the Environmental Representative, but also via the environmental management system maintained by the Lend Lease. This was reflected in the fact that there were no significant environmental incidents or issues identified throughout the life of the project. There has also been no public concern or monitoring exceedance identified to date.

Several observations, opportunities for improvement (OIs) and potential non-compliances were identified during the internal audit and are due to be rectified within the next reporting period.

Table 13 provides the findings and current status of any corrective actions arising from the audit. The detailed Internal Audit report can be found in Appendix H.

*Table 13 Findings from August Lamberts North Internal Audit (EANSW, 2015c)*

| Item No. | Cat. | Finding | Action | Responsible Party | Status | Practical Completion Date |
|---|---|---|---|---|---|---|
| **1** | NC | SSWMP Section 6.5.3.4 OEMP requires Clean and dirty water sediment ponds form the primary source of water for dust suppression, as well as irrigation. Cooling water currently forms the primary source of water for dust suppression and irrigation. | Recommend using clean and dirty water ponds as primary source for dust suppression and irrigation. | Lend Lease | Lend Lease are investigating ways to implement clean and dirty water ponds as their primary source for dust suppression and irrigation. | 31 January 2016 |
| **2** | NC | The SSWMP Section 6.5.4 of the OEMP requires the establishment of an erosion and sediment emergency procedure that can be used during an unlikely major erosion event.<br><br>Emergency procedures are to maintain the lowest point for capture of water of approx.160mL in an hour. Stability bund is in place (geotechnically designed to not breach). However no emergency procedure is evident for a major erosion event. | Recommend preparing erosion and sediment emergency procedure. | Lend Lease | Emergency procedure to be prepared. | 31 January 2016 |
| **3** | NC | The SSWMP Section 6.5.4 of the OEMP requires that all staff working on-site made aware of erosion and sediment emergency procedure. Lend Lease employees may be aware of designed structural plan, but no emergency procedure for a major erosion event exists. | Once emergency procedure is in place recommend that all employees of both Lend Lease and EnergyAustralia NSW are made aware of procedure. | Lend Lease / EnergyAustralia NSW | Emergency procedure to be prepared. | 31 January 2016 |

| Item No. | Cat. | Finding | Action | Responsible Party | Status | Practical Completion Date |
|---|---|---|---|---|---|---|
| **4** | OI | SSWMP Section 6.5.3.4 OEMP requires design of pond sizes on the basis of catchment areas and where possible sized to a target of minimum 50 year ARI event. 10ML may not be adequate to accommodate 50 year ARI. | Recommend investigating adequacy of pond sizes. | Lend Lease | Lend Lease are currently investigating pond size for adequacy. | 31 January 2016 |

# 6. Complaints Register

EnergyAustralia NSW maintains a 24 hour hotline and email address for the public to report incidents, complaints or enquiries with contact details available on the EnergyAustralia website.

EnergyAustralia NSW records the details of all complaints received in a Complaints Register.

The register includes:

- The date and time of the complaint.
- The means by which the complaint was made (e.g. telephone, email, mail, in person).
- Any personal details of the complainant that were provided.
- The nature of the complaint.
- The time taken to respond to the complaint
- Any investigations and actions taken in relation to the complaint.
- If no action was taken in relation to the complaint, the reason(s) why no action was taken.
- Any follow-up contact with, and feedback from, the complainant.

The Contract Administrator, Site Manager and the Environmental Representative ensure that the community relations protocols are communicated to all project personnel involved in the complaints process and that appropriate training covering the protocols is established in site inductions.

The key elements of the on-site complaints management protocol are outlined below:

- All persons wishing to register a complaint to operations personnel will be directed to the Commercial Manager, in line with EnergyAustralia NSW's existing complaints procedure.
- The Commercial Manager will deal with the complaint and take down particulars of the complaint as per the criteria listed on the complaints register. Details will be referred to the Environment Manager or other appropriate authority depending on the nature of the complaint, and action will then be taken to resolve the issue whilst ensuring that all correspondence relating to the issue is documented. All attempts will be made to resolve the issue on the same day, however if this is not possible, the complainant will be updated regularly on the progress of the matter.
- Written and phone complaints will be directed to the Commercial Manager who will take down the particulars of the complaint as per the criteria listed on the complaints register, and will ensure that the complaint is actioned as quickly as possible.

There is a Community Reference Forum that consists of representative from key surrounding areas to Mt Piper Power Station are invited and provided with updates. There are regular attendees from both Blackmans Flat and

Pipers Flat, adjacent to the Lamberts North ash placement area. Minutes of these meetings are published on the EnergyAustralia website.

## 6.1 Community complaints

No complaints were recorded against operations at Lamberts North in the period from September 2014 to August 2015.

# 7. Activities Proposed in the Next AEMR Period

- *September 2015.* Fresh water conditioned ash placement and furnace bottom ash placement. Furnace bottom ash to haul road maintenance and drainage lines. Ash placement with compaction and with water management directed to containment ponds.
- *October 2015 to March 2016.* No placement in Lamberts North (due to fresh ash and brine co-placement planned for Mount Piper Area 1)
- *April 2016 to August 2016.* Fresh water conditioned ash placement and furnace bottom ash placement. Furnace bottom ash to haul road maintenance and drainage lines. Ash placement with compaction and with water management directed to containment ponds.
- Water cart usage, sprinkler operations and sprinkler rotation for dust suppression on exposed ash areas.
- Environmental monitoring, dust, weather, surface water, groundwater levels.
- Maintenance of pumps to manage detention basins and irrigation supplies.
- Management of the 14ML LNPond2 water levels to ensure irrigation supply and rainfall runoff containment.
- Maintenance of temporary detention and permanent subsurface drainage system along the stability wall.

## 7.1 Environmental Management Targets and Strategies for the Next Year

- Continue all required monitoring
- Update currency of OEMP

# 8. Conclusions

All of Conditions of Approval for the 2014-2015 reporting period were complied with, or were found to be not applicable to the project.

The Conditions of Approval and environmental requirements of the Operation Environmental Management Plan were found to be complied with or not applicable to operations at Lamberts North..

# 9. References

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# 10. Glossary of Terms

| | |
|---|---|
| AEMR | Annual Environmental Management Report |
| CEMP | Construction Environmental Management Plan |
| CoA | Condition of Approval (also known as MCoA – Minister's CoA) |
| CPM | Construction Project Manager |
| CSM | Construction Site Manager |
| DE | Delta Electricity |
| DECC | Department of Environment & Climate Change |
| DPE | Department of Planning and Environment |
| DPI | Department of Planning and Infrastructure |
| EPL | Environment Protection Licence |
| LN | Lamberts North |
| mAHD | Metres Australian Height Datum |
| NEMMCO | National Electricity Market Management Company |
| OEH | Office of Environment & Heritage |
| OEMP | Operation Environmental Management Plan |
| ONVMP | Operational Noise and Vibration Management Plan |
| RL | Relative Level |

# Appendix A
# Detailed review checklist for Conditions of Approval

# Administrative Conditions

## *Terms of approval*

| **Minister's Condition of Approval A1** |
|---|
| ***The proponent shall carry out the project generally in accordance with the:***<br>***a) Major Project Application 09_0186;***<br>***b)* Mt Piper Ash Placement *(two volumes)* – Environmental Assessment*, prepared by Sinclair Knight Merz, August 2010 ;***<br>***c)* Mt Piper Ash Placement – Submissions Report*, prepared by Sinclair Knight Merz, March 2011;***<br>***d)* Delta's Letter to the Department – Submissions Report response to the Department and Agency Issues, dated 22 June 2011; and**<br>***e)* The conditions of this approval.** |
| ***Compliance Assessment Observations and Comments***<br>Based on the review undertaken, the Lamberts North operations have been carried out in accordance with the above requirements. |
| **Compliance Assessment Finding -** Compliant |
| **Minister's Condition of Approval A2** |
| ***In the event of an inconsistency between:***<br>***a) The conditions of this approval and any document listed from condition A1a) – A1d) inclusive the conditions of this approval shall prevail to the extent of the inconsistency; and***<br>***b) Any of the documents listed from the condition A1a) –A1d) inclusive, the most recent document shall prevail to the extent of the inconsistency.*** |
| ***Compliance Assessment Observations and Comments***<br>No inconsistencies were observed between the documents listed above during implementation of the project or during the course of the review of operations in preparing this AEMR. |
| **Compliance Assessment Finding -** Compliant |

| **Minister's Condition of Approval A3** |
|---|
| ***The proponent shall comply with the reasonable requirements of the Director-General arising from the Department's assessment of:***<br>***a) Any reports, plans or correspondence that are submitted in accordance with this approval; and***<br>***b) The implementation of any actions or measures contained in these reports, plans or correspondence.*** |
| ***Compliance Assessment Observations and Comments***<br>In a letter dated 16 June 2015, the DP&E made three comments in regards to the 2013-2014 AEMR. The responses to these actions are provided within **Error! Reference ource not found.**Section 2.4 of this report. No further requests from the Director-General of the DP&E were received in the 2014-15 reporting period. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval A4** |
| ***The proponent shall meet the requirements of the Director-General in respect of the implementation of any measure necessary to ensure compliance with the conditions of this approval, and general consistency with the documents listed under condition A1 of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>Based on the review undertaken, the Lamberts North operations have been carried out in accordance with the above requirements. |
| **Compliance Assessment Finding –** Compliant |

### *Limits of approval*

| **Minister's Condition of Approval A5** |
|---|
| ***This approval shall lapse five years after the date on which it is granted, unless the works that are the subject of this approval are physically commenced on or before that time.*** |
| ***Compliance Assessment Observations and Comments***<br>The Project Approval for Lamberts North Ash Repository (DPI, 2012) is dated 16 February 2012 with construction works on the Lamberts North Ash Repository project commencing 07 January 2013, following approval of the CEMP by DPE in December 2012. Ash placement commenced in September 2013, well before the 'deadline' date. |
| **Compliance Assessment Finding –** Compliant |

### *Statutory requirements*

| **Minister's Condition of Approval A6** |
|---|
| ***The Proponent shall ensure that all licences, permits and approvals are updated and/or obtained as required by law and maintained as required with respect to the project. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals.*** |
| ***Compliance Assessment Observations and Comments***<br>Based on the Environmental Assessment (SKM, 2010) and OEMP (CDM Smith, 2013), no permits were required during the operational phase of the project. Prior to construction licences for sinking boreholes were obtained from the NSW Office of Water. No Commonwealth permits, licences or approvals have been identified for the project. The project complies with the requirements of EnergyAustralia NSW's EPL 13007 (See Section 2.1.1) |
| **Compliance Assessment Finding –** Compliant |

### *Staging*

| **Minister's Condition of Approval A7** |
|---|
| ***Where the Proponent intends to construct and operate the project in discrete stage (i.e. Lamberts North and Lamberts South) it may comply with the requirements in conditions B4, B5, D2, D3 and D4 separately for each stage.*** |
| ***Compliance Assessment Observations and Comments***<br>A CEMP (CDM Smith, 2012a) for construction (CoA B4) including the Construction Noise Management Plan (CoA B5) was approved by the DPI 01 December 2012. An OEMP (CDM Smith, 2013) for operation (CoA D2) of Lamberts North including the Operational Noise Management Plan (CoA D3) and Groundwater Management Plan (CoA D4) was approved by the DPI on 13 May 2013. The abovementioned conditions are compliant for the Lamberts North and have not applied to Lamberts South as no construction works have commenced. |
| **Compliance Assessment Finding –** Compliant |

# Prior to Construction Conditions

### *Environmental Representative*

| **Minister's Condition of Approval B1** |
|---|
| ***Prior to the commencement of any construction activities, or as otherwise agreed by the Director-General, the Proponent shall nominate for the approval of the Director-General a suitably qualified and experienced Environmental Representative(s). The Proponent shall engage the Environmental Representative(s) during any construction activities, and throughout the life of the project, or as otherwise agreed by the Director- General. The Environmental Representative(s) shall:***<br>***(a) oversee the implementation of all environmental management plans and monitoring programs required under this approval, and advise the Proponent upon the achievement of these plans/programs;***<br>***(b) consider and advise the Proponent on its compliance obligations against all matters specified in the conditions of this approval and the Statement of Commitments; and***<br>***(c) have the authority and independence to recommend to the Proponent reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts and, failing the effectiveness of such steps, to recommend to the Proponent that relevant activities are to be ceased as soon as reasonably practicable if there is a significant risk that an adverse impact on the environment will be likely to occur.*** |
| ***Compliance Assessment Observations and Comments***<br>In October 2012 Delta Electricity nominated the Senior Environment Officer Kelly Gillen as the Environmental Representative. The Senior Environment Officer was approved as the Environmental Representative by the DPI on 01 December 2012. The Senior Environment Officer oversees the implementation of Lamberts North operations through attendance at Monthly Client Meetings with Lend Lease. The Senior Environment Officer guides the project through site visits, sampling, auditing and other regulatory activities to ensure compliance with the environmental requirements of the CoAs and all relevant licences.<br>In April 2015, EnergyAustralia NSW notified the DP&E of Ms Gillen's new position within the organisation and nominated the new Senior Environment Officer Coleen Milroy as the Environmental Representative |
| **Compliance Assessment Finding –** Compliant |

### *Groundwater Modelling*

| **Minister's Condition of Approval B2** |
|---|
| ***The Proponent shall undertake groundwater modelling by either adapting the existing UTS (2007) groundwater model to Lamberts North or developing a new groundwater model for Lamberts North. The updated model should be calibrated to site-specific data. In either case, the model shall incorporate the findings of groundwater monitoring of the existing ash placement areas. The Proponent shall consult with the SCA in the preparation of the groundwater model and the model shall be provided to the SCA within five months of project approval, unless otherwise agreed by the Director-General.***<br>***The model shall address but not necessarily be limited to the following:***<br>***a) The findings of the groundwater monitoring of existing ash placement areas and be based on average groundwater quality data;***<br>***b) Updated predictions of the long term behaviour, fate and impacts of ash placement, in particular for water quality parameters such as sulphates, chloride, boron manganese, nickel, zinc, molybdenum, copper, arsenic and barium;***<br>***c) Updated risk assessment for ground and surface water quality impacts under a range of rainfall events of differing duration and intensities (including up to a 100 year ARI event);***<br>***d) Calibration to site-specific data; and***<br>***e) Identification of appropriate surface and groundwater management measures required in order to achieve a neutral or beneficial effect on water quality.***<br>***Prior to construction of Lamberts South, the Lamberts North groundwater model is updated as set out above in items a) – e) in consultation with the SCA, to apply to Lamberts South.*** |
| ***Compliance Assessment Observations and Comments***<br>A Groundwater modelling report was prepared by CDM Smith in November 2012 (CDM Smith, 2012b). The report was prepared in consultation with the SCA and evaluated the potential impacts of construction and operational activities at the site and to assist in determining appropriate surface and groundwater management measures. No construction work has commenced at Lamberts South. |
| **Compliance Assessment Finding –** Compliant |

### *Groundwater Monitoring*

| **Minister's Condition of Approval B3** |
|---|
| ***Baseline groundwater monitoring data, including groundwater quality, location of groundwater monitoring wells, depth and flow of groundwater in the project area should be obtained for a minimum of two sampling events prior to construction and a minimum of two sampling events after construction and prior to ash placement commencing. The baseline monitoring data along with the modelling predications in B2 should be used in the consideration of the design of the ash placement facilities. The location of groundwater monitoring wells and parameters to be monitored should be undertaken in consultation with the SCA.***<br>***Prior to construction of Lamberts South the Proponent shall conduct baseline groundwater data collection as set out above, and use the results and the modelling predications in B2 in the consideration of the design of the ash placement facilities.*** |
| ***Compliance Assessment Observations and Comments***<br>Groundwater bores were installed in July 2012 and were licenced with NSW Office of Water. The first sampling event for baseline testing was performed upon installation and prior to construction. The location and parameters to be undertaken were done in consultation with SCA. Existing historical groundwater bores that were established since the construction of Mt Piper are used to supplement the newly installed groundwater bores. |
| **Compliance Assessment Finding –** Compliant |

### *Construction Environmental Management Plan*

| **Minister's Condition of Approval B4** |
|---|
| ***The Proponent shall prepare and implement a Construction Environmental Management Plan (CEMP) to outline environmental management practices and procedures to be followed during construction of the project. The Plan shall be prepared in consultation with Lithgow City Council and relevant government agencies, and be consistent with the Guideline for the Preparation of Environmental Management Plants (DIPNR, 2004 or its latest revision) and shall include, but not necessarily be limited to:***<br>***a) A description of all relevant activities to be undertaken on the site during construction including an indication of stages of construction, where relevant;***<br>***b) Identification of the potential for cumulative impacts with other construction activities occurring in the vicinity and how such impacts would be managed;***<br>***c) Details of any site compounds and mitigation, monitoring, management and rehabilitation measures specific to the site compound(s) that would be implemented;***<br>***d) Statutory and other obligations that the Proponent is required to fulfil during construction including all relevant approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;***<br>***e) Evidence of consultation with relevant government agencies required under this condition and how issues raised by the agencies have been addressed in the plan;*** |

| |
|---|
| ***f) A description of the roles and responsibilities for all relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that all employees, contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;***<br>***g) Details of how the environmental performance of construction will be managed and monitored, and what actions will be taken to address identified potential adverse environmental impacts;***<br>***h) Specific consideration of relevant measures to address any requirements identified in the documents referred to under conditions A1b) and A1d);***<br>***i) A complaints handling procedure during construction;***<br>***j) Emergency management measures including measures to control bushfires;***<br>***k) Details of waste management including reuse and/or recycling of waste material, to minimise the need for treatment or disposal of those materials outside the site; and***<br>***l) The additional requirements of this approval.***<br>***The CEMP for the project (or any stage of the project_ shall be submitted to the Director-General for approval at least four weeks prior to the commencement of any construction work associated with the project (or stage as relevant), unless otherwise agreed by the Director-General. Construction shall not commence until written approval has been received from the Director-General.*** |
| ***Compliance Assessment Observations and Comments***<br>A CEMP (CDM Smith, 2012a) for construction at Lamberts North was developed in consultation with Delta Electricity Environment Section, NOW and SCA. The CEMP was approved by the DPI in November 2012. |
| **Compliance Assessment Finding –** Compliant |

| **Minister's Condition of Approval B5** |
|---|
| ***As part of the CEMP for the project, the Proponent shall prepare and implement the following plans:***<br>***a) A Construction Noise Management Plan to detail how construction noise impacts would be minimised and managed. The Plan shall be developed in consultation with the EPA and shall include, but not necessarily be limited to:***<br>***i) Details of how construction activities and an indicative schedule for construction works;***<br>***ii) Identifications of construction activities that have the potential to generate noise impacts on sensitive receivers;***<br>***iii) Identification of noise criteria and procedures for assessing noise levels at sensitive receivers;***<br>***iv) Details of reasonable and feasible actions and measures to be implemented to minimise noise impacts;***<br>***v) Details of noise monitoring and if any noise exceedence is detected, how any non-compliance would be rectified; and***<br>***vi) Procedures for notifying sensitive receivers of construction activities that are likely to affect their noise amenity.***<br>***b) A Groundwater Management Plan to detail measures to manage groundwater impacts. The Plan shall be prepared in consultation with the NOW and the SCA and include, but not necessarily be limited to:***<br>***i) Identification of the construction activities that could affect groundwater at the site, including groundwater interference and impacts to groundwater users and dependent species;***<br>***ii) A description of the management controls to minimise impacts to groundwater during construction;***<br>***iii) Methods for monitoring groundwater during construction including a program to monitor groundwater flows and groundwater quality in the project area;***<br>***iv) A response program to address identified exceedences of existing groundwater quality criteria approved for Area 1 (the existing ash placement area); and***<br>***v) Provisions for periodic reporting of results to the SCA during construction.***<br>***c) A Soil and Surface Water Management Plan to outline measures that will be employed to manage water on the site, to minimise soil erosion and the discharge of sediments and other pollutants to lands and/or waters throughout the construction period. The Plan shall be based on best environmental practice and shall be prepared in consultation with the SCA and the NOW and any other relevant government agency. The Plan shall include, but not necessarily be limited to:***<br>***i) Baseline data on the water quality and available flow data in Huons Creek, Lamberts Gully Creek and Neubecks Creek;***<br>***ii) Water quality objectives and impact assessment criteria for Huons Creek, Lamberts Gully Creek and Neubecks Creek;***<br>***iii) A geomorphic assessment of the capacity of Lamberts Gully Creek to accommodate additional flow under a range of rainfall events and duration, prior to commencement of construction works;*** |

***iv) Identification of the construction activities that could cause soil erosion or discharge sediment or water pollutants from the site;***

***v) Description of stockpile locations and disposal methods;***

***vi) A description of the management methods to minimise soil erosion or discharge of sediment or water pollutants from the site, including a strategy to minimise the area of bare surfaces, stabilise disturbed areas, and minimise bank erosion***

***vii) Demonstration that the proposed erosion and sediment control measures will conform with, or exceed, the relevant requirements of Managing Urban Stormwater: Soils and Construction (Landcom, 2004)***

***viii) A site water management strategy identifying drainage design including the separation of clean and dirty water areas for the project, details of the lining of surface water collection ponds and the associated water management measures including erosion and sediment control and provisions for recycling/reuse of water and the procedures for decommissioning water management structure on the site and consideration to the treatment of water prior to discharge to the environment;***

***ix) Measures to monitor and manage soil and water impacts in consultation with NOW and DPI (Fisheries) including: control measures for works close to or involving waterway crossings (including rehabilitation measures following disturbance and monitoring measures and completion criteria to determine rehabilitation success);***

***x) Measures to monitor and manage flood impacts in consultation with NOW and shall include, but not necessarily be limited to a flood model for predicted water levels and contingency measures for the site during potential floods;***

***xi) A program to monitor surface water quality, including Lamberts Gully Creek and Neubecks Creek;***

***xii) A protocol for the investigation of identified exceedences in the impact assessment criteria;***

***xiii) A response plan to address potential adverse surface water quality exceedences; and***

***xiv) Provisions for periodic reporting of results to DPI (Fisheries), NOW and the SCA as per condition B8.***

***d) An Air Quality Management Plan, to provide details of dust control measures to be implemented during the construction of the project. The Plan shall be prepared in consultation with the EPA and should include, but not necessarily be limited to:***

***i) Identification of sources of dust deposition including, truck movements, regrading, backfilling, stockpiles and other exposed surfaces;***

***ii) Identification of criteria, monitoring and mitigation measures for the above sources; and***

***iii) A reactive management programme detailing how and when construction operations are to be modified to minimise the potential for dust emissions, should emissions exceed the relevant criteria.***

***e) A Flora and Fauna Management Plan, to outline measures to protect and minimise loss of native vegetation and native fauna habitat as a result of construction of the project. The Plan shall be prepared in consultation with the EPA and shall include, but not necessarily be limited to:***

***i) Plans showing terrestrial vegetation communities; important flora and fauna habitat areas; locations of threatened flora and fauna and areas to be cleared. The plans shall also identify vegetation adjoining the site where this contains important habitat areas and/or threatened species, populations***

***or ecological communities;***

***ii) Procedures to accurately determine the total area, type and condition of vegetation community to be cleared;***

***iii) Methods to manage impacts on flora and fauna species and their habitat which may be directly or indirectly affected by the project, procedures for vegetation clearing or soil removal/stockpiling and procedures for identifying and re-locating hollows, installing nesting boxes and managing weeds; and***

***iv) A procedure to review management methods where they are found to be ineffective.***

***f) An Aboriginal Heritage Plan, to monitor and manage Aboriginal heritage impacts in consultation with the EPA. The plan should include, but not necessarily limited to:***

***i) An updated Cultural Heritage Management Plan to cover the protection of sites previously recorded in the 2005 Aboriginal heritage assessment;***

***ii) Procedures for the management of unidentified objects and/or human remains, including ceasing work;***

***iii) Aboriginal cultural heritage induction processes for construction personnel; and***

***iv) Procedures for ongoing Aboriginal consultation and involvement should Aboriginal heritage sites or objects be found during construction.***

***g) An Ash Transportation Plan, to provide details on the preferred option for the transportation of ash from Mt Piper Power Station to the ash placement areas. The Plan shall include but not necessarily be limited to:***

***i) Justification of the proposed option for ash transportation (either haulage access roads and/or conveyor) for ash transportation;***

***ii) Details of the proposed option, including construction requirements, impacts and mitigation measures;***

***iii) Plans showing the location of the chosen option; and***

***iv) Provision of mitigation measures should the conveyor breakdown.***

***Compliance Assessment Observations and Comments***

The CEMP for construction and all associated sub-plans for Lamberts North (CDM Smith, 2012a) was developed in consultation with Delta Electricity's Environment Section, NOW and SCA. The CEMP was approved by the DPI on 01 December 2012.

**Compliance Assessment Finding –** Compliant

### *Biodiversity Offsets*

| **Minister's Condition of Approval B6** |
|---|
| ***The Proponent shall develop and submit for approval of the Director-General, a Biodiversity Offset Management Plan. The Biodiversity Offset Management Plan is to be submitted within 12 months of the project approval, unless otherwise agreed to by the Director-General. The Plan shall be developed in consultation with the EPA and shall:***<br>***a) Identify the objectives and outcomes to be met by the Biodiversity Offset Management Plan;***<br>***b) Describe the size and quality of the habitat/vegetation communities of the offset;***<br>***c) Identify biodiversity impacts, including impacts related to the loss of impacted flora and fauna including threatened Capertee Stringybark (Eucalyptus cannonii), nine (9) hectares on remnant vegetation (including Red Stringy Bark Woodland, Scribbly Gum Woodland, Ribbon Gum Woodland), habitat for microbat and woodland bird species and the 31 ha of rehabilitated vegetation to be removed;***<br>***d) Describe the decision-making framework used in selecting the priority ranking of compensatory habitat options available in the region. Where possible, this should include purchase of land, development of agreements with identified land management authorities (e.g. EPA, local Council) for long term management and funding of offsets and mitigation measures;***<br>***e) Include an offset for direct and indirect impacts of the proposal which maintains or improves biodiversity values;***<br>***f) Identify the mechanisms for securing the biodiversity values of the offset measures in perpetuity and identify a monitoring regime, responsibilities, timeframes and performance criteria; and***<br>***g) Detail contingency measures to be undertaken should monitoring against performance outcomes. Rehabilitation measures are required to be implemented to ensure that the biodiversity impacts are consistent with a maintain or improve biodiversity outcome.*** |
| ***Compliance Assessment Observations and Comments***<br>A Biodiversity Offset Management Plan (BOMP) for Lamberts North in consultation with OEH was submitted 14 May 2013 to DPI. The BOMP (Delta Electricity, 2012) was not approved 18 June 2013 and DPI requested the BOMP to be revised to include an offset of 1:1 to the existing rehabilitation site and be resubmitted. The BOMP was revised in consultation with OEH and submitted 23 July 2015. The revised BOMP (EANSW, 2015b) was approved 24 August 2015. A Biodiversity Offset Strategic Outline (BOSO) was prepared for Lamberts South and was considered appropriate by the Department. |
| **Compliance Assessment Finding –** Compliant |

### *Ecological Monitoring & Compliance Monitoring & Tracking*

| **Minister's Condition of Approval B7** |
|---|
| ***The Proponent shall prepare and implement an Ecological Monitoring Program prior to construction, in consultation with the NOW and the DPI (Fisheries), to monitor and quantify the impacts on the ecology of Neubecks Creek and the associated riparian environment. The Program shall include, but not necessarily be limited to:***<br>***a) A sampling, data collection and assessment regime to establish baseline ecological health and for ongoing monitoring of ecological health of the in-stream environment during construction and throughout the life of the project (including operation);***<br>***b) At least one in-stream sampling period prior to ash placement at Neubecks Creek and at least two (2) sampling periods following ash placement at each of Lamberts North and Lamberts South;***<br>***c) An assessment regime for monitoring the ecological health of the riparian environment for a period of at least five (5) years after final capping; and***<br>***d) Management measures to address any adverse ecological impacts.*** |
| ***Compliance Assessment Observations and Comments***<br>The Ecological Monitoring Plan (EMP) was produced 31 November 2012 in consultation with NOW and DPI (Fisheries). Baseline data was sampled 7 November 2012 and autumn and spring sampling obtained for 2013 and 2014. Spring sampling for the September 2014 – August 2015 reporting period was performed in November 2014 (Cardno, 2015). |
| **Compliance Assessment Finding -** Compliant |
| **Minister's Condition of Approval B8 & B9** |
| ***B8 - The Proponent shall develop and implement a Compliance Tracking Program for the project, prior to commencing construction, to track compliance with the requirements of this approval and shall include, but not necessarily be limited to:***<br>***a) Provisions for periodic review of the compliance status of the project against the requirements of this approval and the Statement of Commitments detailed in the document referred to in condition A1c) of this approval;***<br>***b) Provisions for periodic reporting of the compliance status to the Director-General;***<br>***c) A program for independent environmental auditing in accordance with AS/NZ ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing;***<br>***d) Procedures for rectifying any non-compliance identified during environmental auditing or review of compliance;***<br>***e) Mechanisms for recording environmental incidents and actions taken in response to those incidents;***<br>***f) Provisions for reporting environmental incidents to the Director-General during construction and operation; and*** |

***g) Provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.***

***The Compliance Tracking Program shall be implemented prior to construction of the project with a copy submitted to the Director-General for approval at least four weeks prior to the commencement of the project, unless otherwise agreed by the Director-General.***

***B9 – Nothing in this approval restricts the Proponent from utilising any existing compliance tracking programs administered by the Proponent to satisfy the requirements of condition B8. In doing so, the Proponent must demonstrate to the Director-General how these systems address the requirements and/or have been amended to comply with the requirements of the condition.***

***Compliance Assessment Observations and Comments***

A Compliance Tracking program was developed & implemented prior to commencing construction. The Compliance and Tracking document was approved by DPI on 13 December 2012.

**Compliance Assessment Finding -** Compliant

### *Community Information & Complaints Management*

**Minister's Condition of Approval B10**

***Prior to construction of the project, the Proponent shall establish and maintain a website for the provision of electronic information associated with the project. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to:***

***a) The documents referred to under condition A1 of this approval;***

***b) This project approval, Environment Protection Licence and any other relevant environmental approval, licence or permit required and obtained in relation to the project;***

***c) All strategies, plans and programs required under this project approval, or details of where this information can be viewed;***

***d) Information on construction and operational progress; and***

***e) The outcomes of compliance tracking in accordance with the requirements of this project approval.***

***Compliance Assessment Observations and Comments***

A project website is available for the Lamberts North Project:

http://www.energyaustralia.com.au/about-us/what-we-do/projects/mt-piper-and-wallerawang

A link to the DPE website, which hosts the Environmental Assessment, Submissions report and approvals is available.

Progress on operations and outcomes of compliance tracking are detailed within the Quarterly Community meeting and the minutes from this meeting are available from

| |
|---|
| the following website:<br>http://www.energyaustralia.com.au/about-us/what-we-do/generation-assets/wallerawang-mtpiper-power-station/community-meeting-minutes |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval B11** |
| ***Prior to the construction of the project, the Proponent shall ensure that the following are available for community complaints and enquiries during construction and operation:***<br>***a) A 24 hour contact number(s) on which complaints and enquiries about construction and operational activities may be registered;***<br>***b) A postal address to which written complaints and enquiries may be sent; and***<br>***c) An email address to which electronic complaints and enquiries may be transmitted.***<br>***The telephone number, postal address and email address shall be published in a newspaper circulating in the local area prior to the commencement of the project. The above details shall also be provided on the website required by condition B11 of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>A link to the following website is available from the Lamberts North Project Page:<br>http://www.energyaustralia.com.au/about-us/what-we-do/generation-assets/wallerawang-mtpiper-power-station<br>This website lists the following contact details for the project:<br>24 hour contact number – call Mt Piper Power Station on (02) 6354 8111<br>Postal Address:<br>EnergyAustralia NSW – Mt Piper Power Station<br>Locked Bag 1000<br>Portland NSW 2847<br>Email: contactus@energyaustraliansw.com.au |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval B12** |
| ***The Proponent shall record the details of complaints received through the means listed under condition B11of this approval in a Complaints Register. The Register shall record, but not necessarily be limited to:*** |

***a) The date and time of the complaint;***

***b) The means by which the complaint was made (e.g. telephone, email, mail, in person);***

***c) Any personal details of the complainant that were provided, or if no details were provided a note to that effect;***

***d) The nature of the complaint;***

***e) The time taken to respond to the complaint;***

***f) Any investigations and actions taken by the Proponent in relation to the complaint;***

***g) Any follow-up contact with, and feedback from, the complainant; and***

***h) If no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.***

***The Complaints Register shall be made available for inspection by the Director-General upon request.***

***Compliance Assessment Observations and Comments***

Any complaints to EnergyAustralia NSW go via the switchboard, or through email or mail and are then redirected to the appropriate area of EnergyAustralia NSW operations.

All complaints are recorded in the Ellipse system in the Incidents and Complaints Register with all details captured including actions to be taken if necessary as per Environment Management System Administration Procedure for non-conformity, corrective and preventative action. If actions were necessary, a review of those actions is undertaken before the work order is closed. In addition, the ash contractors produce a monthly compliance report including a record of any complaints received.

No complaints have been received regarding the Lamberts North Project for the reporting period.

**Compliance Assessment Finding -** Compliant

| **Minister's Condition of Approval B13** |
|---|
| ***Prior to the commencement of construction of the project, the Proponent shall prepare and implement a Community Information Plan which sets out the community communications and consultation processes to be undertaken during construction and operation of the project. The Plan shall include but not be limited to:***<br>***a) Measures for disseminating information on the development status of the project and methods for actively engaging with surrounding landowners, including Forests NSW and affected stakeholders regarding issues that would be of interest/concern to them during construction and operation of the project; and***<br>***b) Procedures to inform the community where work has been approved to be undertaken outside the normal construction hours, in particular noisy activities.***<br>***A copy of the plan shall be provided to the Director-General one month prior to the commencement of construction.*** |
| ***Compliance Assessment Observations and Comments***<br>The *Lamberts North Ash Placement Stakeholder Communications Plan* (September 2012) was specifically prepared and implemented for the purposes of this project. The CIP was published in the local newspaper Lithgow Mercury 08 December 2012. A Community Information Plan was also prepared in October 2013. |
| **Compliance Assessment Finding –** Compliant |

### *Design*

| **Minister's Condition of Approval B14** |
|---|
| ***The ash placement areas shall be designed by a suitable qualified expert to ensure structural stability of the ash placement areas.*** |
| ***Compliance Assessment Observations and Comments***<br>Design approved by DPE 01 December 2012. The ash placement areas were designed by JK Williams, in consultation with Principal Contractors Lend Lease, to ensure structural stability of the ash placement areas. The ash placement areas were constructed in line with the design. |
| **Compliance Assessment Finding -** Compliant |

# During construction conditions

### *Environmental Incident reporting*

| **Minister's Condition of Approval C1** |
|---|
| ***The Proponent shall notify the Director-General of any environmental incident within 12 hours of becoming aware of the incident. The proponent shall provide full written details of the incident to the Director-General within seven days of the date on which the incident occurred.*** |
| ***Compliance Assessment Observations and Comments***<br>No environmental incidents requiring notification of the Director-General occurred within the September 2014-August 2015 reporting period. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval C2** |
| ***The Proponent shall meet the requirements of the Director-General to address the cause or impact of any environmental incident, as it relates to this approval, reported in accordance with condition C1 of this approval, within such period as the Director-General may require.*** |
| **Compliance Assessment Observations and Comments**<br>Not applicable as no incidents requiring notification of the Director-General occurred within the September 2014-August 2015 reporting period. |
| **Compliance Assessment Finding –** Not applicable |

### *Construction Hours*

| **Minister's Condition of Approval C3** |
|---|
| ***Construction activities associated with the project shall only be undertaken during the following hours:***<br>***a) 7:00 am to 6:00 pm, Monday to Fridays, inclusive;***<br>***b) 8:00 am to 1:00 pm on Saturday; and***<br>***c) At no time on Sundays or public holidays.*** |

***Compliance Assessment Observations and Comments***

A CEMP was prepared for the works associated with the development of Lamberts North in preparation for ash placement and included a Construction Noise Management Plan and Noise Monitoring Program which addressed the construction hours. This was submitted and approved by the DP&I in November 2012.

No construction activities have occurred during the reporting period.

**Compliance Assessment Finding –** Not applicable

**Minister's Condition of Approval C4**

***Construction outside the hours stipulated in condition C3 of this approval is permitted in the following circumstance:***

- ***a) Where construction works do not cause audible noise at any sensitive receiver; or***
- ***b) For the delivery of materials required outside these hours by the Police or other authorities for safety reasons; or***

***Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.***

**Compliance Assessment Observations and Comments**

No construction activities have been performed during the reporting period.

**Compliance Assessment Finding –** Not applicable

**Minister's Condition of Approval C5**

- ***a) The hours of construction activities specified under condition C3 of this approval may be varied with the prior written approval of the Director-General. Any request to alter the hours of construction specified under condition C3 shall be:***
- ***b) A) considered on a case-by-case basis;***
- ***c) Accompanied by details of the nature and need for activities to be conducted during the varied construction hours; and***
- ***d) Accompanied by information necessary for the Director-General to reasonably determine that activities undertaken during the varied construction hours will not adversely impact on the acoustic amenity of sensitive receiver in the vicinity of the site.***

***Compliance Assessment Observations and Comments***

Approval was not required for a variation to construction hours.

**Compliance Assessment Finding –** Not applicable

### *Construction Noise*

**Minister's Condition of Approval C6**

***The construction noise objective for the project is to manage noise from construction activities (as measured by $L_{Aeq\ (15\ minute)}$ descriptor) so as not to exceed:***

| ***Location*** | ***Day ($L_{Aeq\ (15minute)}$) dB(A)*** |
|---|---|
| *All private receivers within the township of Blackmans Flat* | *46* |
| *All other residences* | *43* |

***The Proponent shall implement reasonable and feasible noise mitigation measures with the aim of achieving the construction noise objective consistent with the requirements of the Interim Construction Noise Guideline (DECC, July 2009), including noise generated by heavy vehicle haulage and other construction traffic associated with the project. Any activities that have the potential for noise emissions that exceed the objective must be identified and managed in accordance with the Construction Noise Management Plan (as referred to under Condition B5a of this approval).***

***Compliance Assessment Observations and Comments***

Construction noise mitigation is detailed in CEMP Noise sub-plan approved by DPI 01 December 2012.

No construction activities have been performed during the reporting period.

**Compliance Assessment Finding –** Not applicable

### *Dust Generation*

**Minister's Condition of Approval C7**

***The Proponent shall construct the project in a manner that minimises dust emissions from the site, including wind-blown from earth works and stockpiles and traffic-generated dust. All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should visible dust emissions occur at any time, the Proponent shall identify and implement all practicable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.***

| |
|---|
| ***Compliance Assessment Observations and Comments*** |
| Dust generation mitigation is detailed in CEMP Air quality sub-plan approved by DPI 01 December 2012. |
| No construction activities have been performed during the reporting period. |
| **Compliance Assessment Finding –** Not applicable |

### *Heritage Impacts*

| |
|---|
| **Minister's Condition of Approval C8** |
| ***If during the course of construction the Proponent becomes aware of any previously unidentified Aboriginal object(s), all work likely to affect the object(s) shall cease immediately and the EPA (OEH) informed in accordance with the* National parks and Wildlife Act 1974*. In addition, registered Aboriginal stakeholders shall be informed of the finds. Works shall not recommence until an appropriate strategy for managing the objects has been determined in consultation with the EPA (OEH) and the registered Aboriginal stakeholders and written authorisation from the EPA (OEH) is received by the Proponent.*** |
| ***Compliance Assessment Observations and Comments*** |
| The course of action for Aboriginal objects identified during construction is detailed in CEMP Aboriginal sub-plan approved by DPI 01 December 2012. No Aboriginal artefacts were discovered during construction. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval C9** |
| ***If during the course of construction the Proponent becomes aware of any unexpected historical relic(s), all work likely to affect the relic(s) shall cease immediately and the EPA (OEH (Heritage Branch)) notified in accordance with the* Heritage Act 1977*. Works shall not recommence until the Proponent receives written authorisation from the EPA (OEH (Heritage Branch)).*** |
| ***Compliance Assessment Observations and Comments*** |
| No historic relics were discovered during construction. |
| **Compliance Assessment Finding –** Compliant |

### *Soil and Water Quality Impacts*

| |
|---|
| **Minister's Condition of Approval C10** |
| ***The Proponent shall comply with section 120 of the* Protection of the Environment Operations Act 1997 *which prohibits the pollution of waters.*** |
| ***Compliance Assessment Observations and Comments***<br>Compliance is achieved through the CEMP Soil and water sub-plan approved by DPI 01 December 2012 and EPL 13007. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval C11** |
| ***Soil and water management controls shall be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction activities, in accordance with:***<br>***a) Managing Urban Stormwater: Soils and Conservation (Landcom, 2004);***<br>***b) Managing Stormwater: Urban Soils and Construction 2A Installation of Services (DECC 2008); and***<br>***c) Managing Stormwater: Urban Soils and Construction Vol. 2C Unsealed Roads (DECC 2008).*** |
| ***Compliance Assessment Observations and Comments***<br>Soil and water controls are detailed in CEMP Soil and Water sub-plan approved by DPI 01 December 2012. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval C12** |
| ***During construction, the Proponent shall maintain of buffer of 50 metres from the construction work to Neubecks Creek.*** |
| ***Compliance Assessment Observations and Comments***<br>Buffer was maintained as documented in JKW contractor meeting minutes. |
| **Compliance Assessment Finding –** Compliant |

| **Minister's Condition of Approval C13** |
|---|
| ***Surface water drainage must be appropriately engineered and stabilised to convey run off without collapse or erosion. Surface water runoff collection ponds are to be lined.*** |
| ***Compliance Assessment Observations and Comments***<br>Surface water drainage engineered and stabilised as per CEMP Soil and Water sub-plan approved by DPI 01 December 2012. |
| **Compliance Assessment Finding –** Compliant |

### *Waste Generation and Management*

| **Minister's Condition of Approval C14** |
|---|
| ***All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.*** |
| ***Compliance Assessment Observations and Comments***<br>EnergyAustralia NSW manages all site waste in accordance with EPL 13007 disposal and restricted waste area or via waste contractors with licenced waste contractor. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval C15** |
| ***The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the* Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste.*** |
| ***Compliance Assessment Observations and Comments***<br>No wastes generated outside the Lamberts North site were allowed to enter the area.<br>To prevent the unlawful access to the repository area, regular security patrols are conducted across the site. Both Lend Lease and EnergyAustralia NSW personnel are required to report if they encounter any rubbish or wastes outside those that are allowed during routine operations. |
| **Compliance Assessment Finding –** Compliant |

| **Minister's Condition of Approval C16** |
|---|
| ***The Proponent shall ensure that all liquid and/or non-liquid waste generated and/or stored on the site is assessed and classified in accordance with the Waste Classification Guidelines (DECC, 2008), or any future guideline that may supersede that document.*** |
| ***Compliance Assessment Observations and Comments***<br>EANSW manages all site waste in accordance with EPL 13007 disposal and restricted waste area or via waste contractors with licenced waste contractor. |
| **Compliance Assessment Finding –** Compliant |

# Prior to Operations conditions

### *Ash Management*

| **Minister's Condition of Approval D1** |
|---|
| ***The Proponent shall prepare a long-term ash management strategy including a program for investigation and assessment of alternative ash management measures with a goal of 40% reuse of ash by 31 December 2020. The report shall be submitted to the Director-General six months prior to the commencement of operations. The Proponent shall report on the status and outcomes of its investigations to the Director-General every two years from the commencement of the operation of the project, unless otherwise agreed by the Director-General.*** |
| ***Compliance Assessment Observations and Comments***<br>Lamberts North Consistency Report (SKM, 2012) and Ash Management Strategy (DMC, 2010) approved by DPI 30 July 2012 detailing the long-term ash management strategy for ash re-use. |
| **Compliance Assessment Finding –** Compliant |

### *Operational Environmental Management Plan*

| **Minister's Condition of Approval D2** |
|---|
| ***The Proponent shall prepare and implement an Operational Environmental Management Plan (OEMP) to detail an environmental management framework, practices and procedures to be followed during operation of the project. The Plan shall be prepared in consultation with Lithgow City Council and relevant government agencies, and shall be consistent with the Guideline for the Preparation of Environmental Management Plans (DIPNR 2004) and shall include, but not necessarily be limited to:***<br>***a) Identification of all statutory and other obligations that the Proponent is required to fulfil in relation to operation of the project, including all approvals, licences,*** |

***approvals and consultations;***

- ***b) A description of the roles and responsibilities for all relevant employees (including contractors) involved in the operation of the project;***
- ***c) Overall environmental policies and principles to be applied to the operation of the project;***
- ***d) Standards and performance measures to be applied to the project, and a means by which environmental performance can be periodically reviewed and improved, where appropriate;***
- ***e) Management policies to ensure that environmental performance goals are met and to comply with the conditions of this approval;***
- ***f) The environmental monitoring requirements outlined under condition E12 to E18 inclusive;***
- ***g) Details of waste management including reuse and/or recycling of waste material, to minimise the need for treatment or disposal of those materials outside the site;***
- ***h) Specific consideration of relevant measures to address any requirements identified in the documents referred to under conditions A1b and A1d of this approval; and***
- ***i) The additional requirements of this approval.***

***The Plan shall be submitted for the approval of the Director-General no later than four weeks prior to the commencement of operation of the project, unless otherwise agreed by the Director-General. Operation shall not commence until written approval has been received from the Director-General.***

***Nothing in this approval precludes the Proponent from incorporating the requirements of the Operational Environmental Management Plan into existing environmental management systems and plans administered by the Proponent.***

***Compliance Assessment Observations and Comments***

The Operation Environmental Management Plan (CDM Smith, 2013) was approved by DPI in May 2013 and operations at Lamberts North commenced in September 2013.

**Compliance Assessment Finding –** Compliant

**Minister's Condition of Approval D3**

***As part of the OEMP for the project, required under condition D2 of this approval, the Proponent shall prepare and implement the following Management Plans:***

- ***a) An Operational Noise Management Plan to detail measures to mitigate and manage noise during operations of the project. The Plan shall be prepared in consultation with the EPA and include, but not necessarily be limited to:***
  - ***i) Identification of activities that will be carried out in relation to the project and the associated noise sources;***
  - ***ii) Identification of all relevant sensitive receivers and the applicable criteria at those receivers commensurate with the noise limit specified under condition E7 of this approval;***
  - ***iii) Noise monitoring procedures (as referred to in condition E12 of this approval) for periodic assessment of noise impacts at the relevant receivers against***

***the noise limits specified under this approval and the predicted noise levels as detailed in the EA;***

- ***iv) Details of all management methods and procedures that will be implemented to control individual and overall noise emissions from the site during operation, including the feasibility of noise reducing benching;***
- ***v) Procedures to ensure that all reasonable and feasible noise mitigation measures are applied during operation of the project and procedures and corrective actions to be undertaken if non-compliance against the operational noise criteria as detailed in condition E7 is detected at the sensitive receivers; and***
- ***vi) Provisions for periodic reporting of results to the EPA as per condition B8.***

***b) A Groundwater Management Plan to detail measures to mitigate and manage groundwater impacts. The Plan shall be prepared in consultation with the NOW and the SCA and include, but not necessarily be limited to:***

- ***i) Consideration of the revised updated groundwater model as per condition B2;***
- ***ii) Baseline data on groundwater quality (including Huons Creek), location of groundwater monitoring wells, depth and available flow of groundwater in the project area;***
- ***iii) Identification of potential sources of water pollutants and management measures;***
- ***iv) Groundwater assessment criteria including trigger levels for remedial measures;***
- ***v) A contingency plan for events that have the potential to pollute or contaminate groundwater sources of water. The plan shall include remediation actions and communication strategies (including notification of potentially affected nearby bore users) for the effective management of such an event to prevent discharge of these pollutants from all sources within the project area;***
- ***vi) A monitoring program as per condition E15 for groundwater connectivity, water levels, groundwater flow and water quality over the short and long term that includes upstream and downstream locations. The program shall continue for a minimum of five years following final capping and landscaping;***
- ***vii) A protocol for the investigation of identified exceedences of the groundwater impact assessment criteria; and***
- ***viii) Provisions for periodic reporting of results to the SCA as per condition B8.***

***c) A Soil and Surface Water Management Plan to outline measures that will be employed to manage water on the site, to minimise soil erosion and the discharge of sediments and other pollutants to lands and/or waters throughout the life of the project. The Plan shall be based on best environmental practice and shall be prepared in consultation with the NOW and the SCA and DPI (Fisheries). The Plan shall include, but not necessarily be limited to:***

- ***i) Baseline data on the surface water quality and available flow in Neubecks Creek and Lamberts Gully Creek;***
- ***ii) Water quality objectives and impact assessment criteria for Neubecks Creek and Lamberts Gully Creek;***
- ***iii) Identification of the operation activities that could cause soil erosion or discharge sediment or water pollutants from the site;***
- ***iv) A description of the management controls to minimise soil erosion or discharge of sediment or water pollutant from the site, including a strategy to***

***minimise the area of bare surfaces, stabilise disturbed areas and minimise bank erosion;***

- ***v) Demonstration that the proposed erosion and sediment control measured will conform with, or exceed, the relevant requirements of Managing Urban Stormwater: Soils and Construction (Landcom, 2004);***
- ***vi) Details of the water management system including separation of clean and contaminated/polluted water flows, provision for the treatment, recycling/reuse and/or discharge of flows;***
- ***vii) Site water balance including water usage for ash placement, sources of water and quantity of run-off generated;***
- ***viii) Details of the lining for the surface water collection ponds;***
- ***ix) Measures to minimise potential surface water infiltration;***
- ***x) A flow and water quality monitoring program for Neubecks Creek and Lamberts Gully Creek that includes discharge points, upstream and downstream locations as per condition E16 and limits for identified pollutants;***
- ***xi) Specified remedial actions and contingency plans to mitigate any water quality exceedences on receiving waters including identified trigger levels for remedial measures or the activation of contingency plans; and***
- ***xii) Provisions for periodic reporting to the DPI (Fisheries) and the SCA as per condition B8.***

***d) An Air Quality Management Plan to outline measures to minimise impacts from the project on local air quality. The Plan shall be prepared in consultation with NSW Health and the EPA and include, but not necessarily be limited to:***

- ***i) Baseline data on dust deposition levels;***
- ***ii) Air quality objectives and impact assessment criteria;***
- ***iii) An assessment of alternative methods of ash placement to minimise the exposure of active placement areas to prevailing winds;***
- ***iv) Mitigation measures to be incorporated during ash placement activities, haulage, etc.;***
- ***v) An operating protocol for the ash placement irrigation system including activation rates, application rates and area of coverage and means of dealing with water shortages;***
- ***vi) Detail how ash placement moisture levels will be maintained;***
- ***vii) A contingency plan to deal with high winds and dust suppression;***
- ***viii) A protocol for the investigation of visible emissions from the ash placement area;***
- ***ix) A response plan to address exceedences in visible emissions including $PM_{10}$, TSP and deposited dust from the ash placement areas; and***
- ***x) An air quality monitoring program as referred to in condition E18 of this approval including identified air quality monitoring locations (including monitoring at sensitive receivers) and meteorological monitoring to predict high wind speed events;***
- ***xi) Provisions for periodic reporting of results to the EPA as per condition B8; and***

***xii) A protocol for suppressing dust emissions within licence limits under normal and adverse weather conditions at all stages of the ash placement process.***

***e) A Landscape/Revegetation Plan to outline measure to minimise the visual impacts of the ash placement areas and ensure the long-term stabilisation of the site and compatibility with the surrounding landscape and land use. The Plan shall include, but not necessarily be limited to:***

***i) Identification of design objectives and standards based on local environmental values, vistas, and land uses;***

***ii) Identification of the timing and progressive implementation of revegetation works for ash placement areas as they are completed, including short-term and long term goals including landscape plans;***

***iii) A schedule of species to be used in revegetation, including the use of local native species in revegetation works selected by a qualified expert to ensure the rehabilitation works do not compromise the long term integrity of the capping; and***

***iv) Procedures and methods to monitor and maintain revegetated areas during the establishment phase and long-term.***

***f) A Site Rehabilitation Management Plan to outline measures to stabilise and rehabilitate the site following project completion. The Plan shall be prepared in consultation with the SCA. The Plan shall include, but not necessarily be limited to:***

***i) Reinstatement of geomorphologic stable drainage lines on the rehabilitated areas and a timeframe for rehabilitation;***

***ii) Restoration, rehabilitation and revegetation of the project's site;***

***iii) Measures to control water pollutants from rehabilitated areas; and***

***iv) A program and timeframe for monitoring rehabilitated areas.***

***Compliance Assessment Observations and Comments***

The Operation Environmental Management Plan was prepared by CDM Smith. Sections 6.3 – 6.7 detail the required management plans as outlined above. Approval of the OEMP was granted in May 2013 and operations at Lamberts North commenced in September 2013.

**Compliance Assessment Finding –** Compliant

### *Groundwater Quality and Geotechnical Impacts*

| **Minister's Condition of Approval D4** |
|---|
| ***Prior to commencement of operation, the Proponent shall submit a geotechnical report prepared by a suitably qualified expert that demonstrates the site has been engineered as being suitable for ash placement. The report must also provide an evaluation of groundwater levels once re-profiling has been completed.*** |
| ***Compliance Assessment Observations and Comments***<br>An evaluation of groundwater levels at Lamberts North (CDM Smith, 2012b) was provided to DPI May 2013. The groundwater level evaluation report demonstrated that the activities associated with preparation and re-profiling of Lamberts North area had minimal impact on groundwater levels on and immediately adjacent to the site. |
| **Compliance Assessment Finding –** Compliant |

# Operational conditions

### *Operational Hours*

| **Minister's Condition of Approval E1** |
|---|
| ***Operational activities associated with the project shall only be undertaken from 6:00 am to 8:00 pm, Monday to Friday and 6:00 am to 5:00 pm Saturday and Sunday.*** |
| ***Compliance Assessment Observations and Comments***<br>Lend Lease have advised that no operational activities have taken place outside the hours designated above. Ash haul truck logs support this statement. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval E2** |
| ***Operations outside the hours stipulated in condition E1 of this approval are only permitted in the following emergency situations:***<br>***a) Where it is required to avoid the loss of lives, property and/or to prevent environmental harm; or***<br>***b) Breakdown of plant and/or equipment at the ash placement areas or the Mt Piper Power Station and the proposed Mt Piper Power Station Extension project with the effect of limiting or preventing ash storage at the power station outside the operating hours defined in condition E1; or***<br>***c) A breakdown of an ash haulage truck(s) or the conveyor preventing haulage during the operating hours stipulated in condition E1 combined with insufficient storage capacity at the Mt Piper Power Station including the proposed Mt Piper Power Station Extension to store ash outside of the project operating hours; or***<br>***d) In the event that the Australian Energy Market Operator (AEMO), or a person authorised by AEMO, directs the Proponent (as a licensee) under the National Electricity Rules to maintain, increase or be available to increase power generation for system security and there is insufficient ash storage capacity at the Mt Piper Power Station to allow for the ash to be stored.***<br>***In the event of conditions E2b or E2c arising, the Proponent is to take all reasonable and feasible measures to repair the breakdown in the shortest time possible.*** |
| **Compliance Assessment Observations and Comments**<br>Lend Lease have advised that no operational activities have taken place outside the hours. No emergencies requiring out of hours operation have occurred within the reporting period. |
| **Compliance Assessment Finding –**Not applicable |

| **Minister's Condition of Approval E3** |
|---|
| ***In the event that an emergency situation as referred to under condition E2b or E2c occurs more than once in any two month period, the Proponent shall prepare and submit to the Director-General for approval a report including, but not limited to:***<br>***a) The dates and a description of the emergency situations;***<br>***b) An assessment of all reasonable and feasible mitigation measures to avoid recurrence of the emergency situations;***<br>***c) Identification of a preferred mitigation measure(s); and***<br>***d) Timing and responsibility for implementation of the mitigation measure(s).***<br>***The report is to be submitted to the Director-General within 60 days of the second emergency situation occurring. The Proponent shall implement all reasonable and feasible mitigation measures in accordance with the requirements of the Director-General.*** |
| ***Compliance Assessment Observations and Comments***<br>Lend Lease have advised that no operational activities have taken place outside the hours. No emergencies requiring out of hours operation have occurred within the reporting period. |
| **Compliance Assessment Finding –**Not applicable |
| **Minister's Condition of Approval E4** |
| ***The Proponent shall notify the EPA prior to undertaking any emergency ash haulage or placement operations outside the hours of operation stipulated in condition E1 of this approval and keep a log of such operations.*** |
| ***Compliance Assessment Observations and Comments***<br>Lend Lease have advised that no operational activities have taken place outside the hours. No emergencies requiring out of hours operation have occurred within the reporting period. |
| **Compliance Assessment Finding –**Not applicable |
| **Minister's Condition of Approval E5** |
| ***The Proponent shall notify the Director-General in writing within seven days of undertaking any emergency ash haulage or placement operations outside of the hours of operation stipulated in condition E1 of this approval.*** |

| |
|---|
| ***Compliance Assessment Observations and Comments*** |
| Lend Lease have advised that no operational activities have taken place outside the hours. No emergencies requiring out of hours operation have occurred within the reporting period. |
| **Compliance Assessment Finding –**Not applicable |
| **Minister's Condition of Approval E6** |
| ***The Proponent shall notify nearby sensitive receivers (as defined in the Operational Noise Management Plan required under condition D3s of this approval) prior to 8.00 pm where it is known that emergency ash haulage or placement operations will be required outside the hours of operation stipulated in condition E1 of this approval.*** |
| ***Compliance Assessment Observations and Comments*** |
| Lend Lease have advised that no operational activities have taken place outside the hours. No emergencies requiring out of hours operation have occurred within the reporting period. |
| **Compliance Assessment Finding –**Not applicable |

### *Operational Noise*

**Minister's Condition of Approval E7**

***The cumulative operational noise from the ash placement area and ash haulage activity shall not exceed the following $L_{Aeq(15\ minute)}$ dB(A):***

| *Location* | *Day (7am to 6pm)* | *Evening (6pm to 10pm)* | *Night (10pm to 7am)* |
|---|---|---|---|
| *All private sensitive receivers within the township of Blackmans Flat* | *42* | *38* | *35* |
| *All other sensitive receivers* | *42* | *38* | *35* |

***This noise criteria set out above applies under all meteorological conditions except for any of the following:***

- ***a) Wind speed greater than 3 metres/second at 10 metres above ground level;***
- ***b) Stability category F temperature inversion conditions and wind speed greater than 2 metres/second at 10 metres above ground level; and***
- ***c) Stability category G temperature inversion conditions.***

***This criteria does not apply where the Proponent and an affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and the EPA.***

***Compliance Assessment Observations and Comments***

Noise criteria is included in Table 6-4 of the approved OEMP. Meteorological conditions to which the above criteria apply are included in Section 6.3.5.3 of the approved OEMP.

Measured noise levels during noise monitoring performed September 2014 and March 2015 are compliant with operational noise criteria (Aurecon, 2014b; 2015a).

**Compliance Assessment Finding –** Compliant

| **Minister's Condition of Approval E8** |
|---|
| ***To determine compliance with the $L_{Aeq(15\ minute)}$ noise limits, the noise monitoring equipment must be located at the most affected point:***<br>***a) Within 30 metres of a dwelling façade where any dwelling on the property is situated more than 30 metres from the property boundary that is closest to the premises; or***<br>***b) Approximately on the boundary where any dwelling is situated 30 metres or less from the property boundary that is closest to the premises.*** |
| **Compliance Assessment Observations and Comments**<br>Addressed in section 6.3.5.4 of the approved OEMP and section 4.4.2 of this AEMR. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval E9** |
| ***For the purposes of monitoring noise from the premises to determine compliance with the noise limits:***<br>***a) Class 1 or 2 noise monitoring equipment as defined by AS IEC61672.1-2004 and AS IEC61672.2-2004, or other noise monitoring equipment accepted by the EPA in writing, must be used;***<br>***b) The modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment;***<br>***c) The meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station at the premises; and***<br>***d) Stability category temperature inversion conditions are to be determined by the sigmatheta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.*** |
| ***Compliance Assessment Observations and Comments***<br>Addressed in Section 6.3.5.4 of the approved OEMP. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval E10** |
| ***The Proponent shall implement measures to ensure noise attenuation of truck. These measures may include, but are not necessarily limited to, installation of residential class mufflers, engine shrouds, body dampening, speed limiting, fitting of rubber stoppers to tail gates, limiting the use of compression braking, and ensuring trucks operate in a one-way system at the ash placement areas where feasible.*** |

**Compliance Assessment Observations and Comments**

The plant and equipment mitigation measures are included in Table 6-3 of the approved OEMP. No noise complaints have been received for Lamberts North within the reporting period.

**Compliance Assessment Finding –** Compliant

### *Operational Noise Review*

**Minister's Condition of Approval E11**

***Within 60 days of the commencement of operation of the project, unless otherwise agreed to by the Director-General, the Proponent shall submit to the Director-General an Operational Noise Review to confirm the operational noise impacts of the project. The Operational Noise Review shall be prepared in consultation with the EPA. The Review shall:***

- ***a) Identify the appropriate operational noise objectives and levels for sensitive receivers;***
- ***b) Describe the methodologies for noise monitoring, including the frequency of measurements and location of monitoring sites;***
- ***c) Document the operational noise levels at sensitive receivers as ascertained by the noise monitoring program;***
- ***d) Assess the noise performance of the project against the noise criteria specified in condition E7 of this approval and the predicted noise levels as detailed in the report referred to under condition A1b) of this approval; and***
- ***e) Provide details of any entries in the Complaints Register relating to noise impacts.***

***Where monitoring indicates noise levels in excess of the operational noise criteria specified in condition E7 of this approval, the Proponent shall prepare a report as required by condition E13 of this approval***

***Compliance Assessment Observations and Comments***

The *Operation Noise Review Report* was prepared in October 2013 by Aurecon. The report was submitted to the DPI on 9th October 2013 and the EPA 10th October 2013 for review. The report concluded that the noise resulting from Lamberts North operations comply with the criteria specified in condition E7 at the representative residential receivers at Location 1 and Location 2.

No complaints regarding noise from Lamberts North have been recorded during the reporting period.

**Compliance Assessment Finding –** Compliant

### *Ongoing Operational Noise Monitoring*

| **Minister's Condition of Approval E12** |
|---|
| ***The Proponent shall prepare and implement an Operational Noise Monitoring Program to assess compliance against the operational noise criteria stipulated in condition E7 of this approval, throughout the life of the project. The noise monitoring program shall be prepared in consultation with the EPA and must include the proposed frequency of monitoring and as a minimum must include monitoring when there are any significant changes in work locations or processes.***<br>***The noise monitoring program shall be prepared in accordance with the requirements of the New South Wales Industrial Noise Policy (EPA, 2000) and shall include, but not be limited to:***<br>***a) Monitoring at Lamberts North, Lamberts South and Blackmans Flat during ash placement activities; and***<br>***b) Monitoring of the effectiveness of any noise mitigation measures implemented under condition D3a) of this approval, against the noise criteria specified in condition E7 of this approval.***<br>***The Proponent shall forward to the EPA and the Director-General a report containing the results of any non-compliance within 14 days of conducting a noise assessment. The monitoring program shall form part of the Operational Noise Management Plan referred to in condition D3a) of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>The operational noise monitoring program is included in Table 6-5 of the approved OEMP. Six-monthly monitoring was performed – in September 2014 and March 2015. Both reports state that the noise resulting from Lamberts North operations complies with the criteria specified under condition E7 at the representative residential receivers at Location 1 and Location 2 (Aurecon, 2014b; 2015a). |
| **Compliance Assessment Finding –** Compliant |

| **Minister's Condition of Approval E13** |
|---|
| ***Where noise monitoring including as required by condition E11 and E12 of this approval identifies any non-compliance with the operational noise criteria specified under condition E7 of this approval, the Proponent shall prepare and submit to the Director-General a report including, but not limited to:***<br>***a) An assessment of all reasonable and feasible physical and other mitigation measures for reducing noise at the source;***<br>***b) Identification of the preferred measure(s) for reducing noise at the source;***<br>***c) Feedback from directly affected property owners and the EPA on the proposed noise mitigation measures; and***<br>***d) Location, type, timing and responsibility for implementation of the noise mitigation measure(s).***<br>***The report is to be submitted to the Director-General within 60 days of undertaking the noise monitoring which has identified exceedences of the operational noise criteria specified under condition E7, unless otherwise agreed to by the Director-General. The Proponent shall implement all reasonable and feasible mitigation measures in accordance with the requirements of the Director-General.*** |
| ***Compliance Assessment Observations and Comments***<br>No non-compliances with the operational noise criteria specified under condition E7 has been reported during the reporting period. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval E14** |
| ***If after the implementation and feasible source controls, as identified in the report required by condition E13, the noise generated by the project continues to exceed the criteria stipulated in condition E7, the Proponent shall implement at the receiver reasonable and feasible noise mitigation measures, such as double glazing, insulation, air conditioning and/or other building acoustic treatments, in consultation with and with the agreement of the affected landowner.*** |
| ***Compliance Assessment Observations and Comments***<br>No non-compliances with the operational noise criteria specified under condition E7 has been reported during the reporting period. |
| **Compliance Assessment Finding –** Not applicable |

### *Groundwater Monitoring*

| **Minister's Condition of Approval E15** |
|---|
| ***The Proponent shall prepare and implement a Groundwater Monitoring Program to monitor the impacts of ash placement activities on local groundwater quality and hydrology. The Program shall be developed in consultation with the SCA, and shall describe the location, frequency, rationale and procedures and protocols for collecting groundwater samples as well as the parameters analysed and methods of analysis. The monitoring program shall be ongoing for the operation of the project and for a minimum of 5 years following project completion and include, but not be limited to:***<br>***a) Monitoring at established bore sites (or replacement bore sites in the event that the existing sites are damaged or lost) as described in the Groundwater Management Plan as per condition D3b); and***<br>***b) A schedule for periodic monitoring of groundwater quality, depth and flow at all monitoring sites, at an initial frequency of no less than once every month for the first 12 months of operation.***<br>***The monitoring program shall form part of the Groundwater Management Plan referred to in condition D3b) of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>The Groundwater Monitoring program is included as part of the Groundwater Management Plan as Section 6.4.3 of the approved OEMP. Monitoring has been carried out on a continual monthly basis including the first 12 months of operations to establish baseline data.<br>Results of Groundwater monitoring during the reporting period have been addressed in Section 4.5.2 of this AEMR and can be found in Appendix F. |
| **Compliance Assessment Finding –** Compliant |

### *Surface Water Quality Monitoring*

| **Minister's Condition of Approval E16** |
|---|
| ***The Proponent shall prepare and implement a surface water quality monitoring program to monitor the impacts of the ash placement activities on Neubecks Creek and Lamberts Gully. The Program shall be developed in consultation with the DPI (Fisheries) and the SCA, and shall describe the location, frequency, rationale and the procedures and protocols for collecting water samples as well as the parameters analysed and methods of analysis. The program shall include, but not necessarily be limited to:***<br>***a) Monitoring at the existing water quality monitoring sites as described in the document referred to under condition A1b);***<br>***b) Monitoring at surface water discharge points from Lamberts Gully Creek;***<br>***c) Monitoring at surface water discharge points into Neubecks Creek;***<br>***d) Wet weather monitoring with a minimum of two events recorded within the first 12 months operation of the project; and***<br>***e) A schedule for periodic monitoring of surface quality at all sites throughout the life of the project, at an initial frequency of no less than once every month for the first 12 months and must include, but not be limited to, monitoring of dissolved oxygen, turbidity, sulphates, salinity, boron, manganese, iron, chloride, total phosphorous and total nitrogen.*** |
| ***Compliance Assessment Observations and Comments***<br>The Surface water monitoring programme is included in Table 6.21 of the approve OEMP. Monthly monitoring is performed at the Final Holding Pond monitoring station to Neubecks Creek (LDP01), and at NC01 and WX22. Wet weather monitoring was performed in October 2013 and March 2014.<br>Results of Surface water monitoring during the reporting period have been addressed in Section 4.6.2 of this AEMR and can be found in Appendix F. |
| **Compliance Assessment Finding –** Compliant |

### *Hydrological Monitoring Program*

| **Minister's Condition of Approval E17** |
|---|
| ***A Hydrological Monitoring Program to assess and quantify the impacts and effectiveness of the transformed section of Huons Creek into a sub-surface drainage line in consultation with the DPI (Fisheries). Monitoring is to be undertaken for a period of five (5) years upon completion of the creek transformation. The program must include sampling for identified pollutants before and after the transformation works and include a sampling site downstream of the sub-surface section of Huons Creek. In the first 12 months following completion of the transformation, monitoring is to be undertaken at least every three (3) months upon completion of the creek transformation and after any heavy wet weather event.***<br>***The monitoring program shall form part of the Soil and Surface Water Management Plan referred to in condition D3c) of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>Huons Creek was filled in during construction of the Lamberts North ash placement site commenced. As such, it was not developed as a sub-surface drain as was originally proposed. A Consistency report (SKM, 2012) was submitted to the DPI on 30 July 2012. The report states that groundwater modelling performed during construction demonstrated that the water contained within the creek was largely groundwater as a result of the Huon Void intersecting the groundwater table. Based on this finding, the hydrological monitoring program was incorporated into the Groundwater Management Plan. |
| **Compliance Assessment Finding –** Compliant |

### *Air Quality Monitoring*

| **Minister's Condition of Approval E18** |
|---|
| ***The Proponent shall prepare and Air Quality Monitoring Program, in consultation with the EPA and NSW Health. The Program shall include, but not necessarily be limited to, monitoring for dust. Monitoring sites shall be identified as per condition D3d). The air quality monitoring program shall be ongoing for the life of the project, and during final rehabilitation and stabilisation of the site.***<br>***The monitoring program shall form part of the Air Quality Management Plan referred to in condition D3d) of this approval.*** |
| ***Compliance Assessment Observations and Comments***<br>The Air Quality Monitoring Program is included in section 6.6.6 of the approved OEMP. It states that air quality monitoring will be undertaken for the life of the project. TEOM and dust gauge data has been collected monthly in the first 12 months of operation to determine whether additional monitoring stations are required as a result of the project. The results of Air Quality monitoring during the reporting period are addressed in Section 4.9.2 of this AEMR and can be found in Appendix G. |
| **Compliance Assessment Finding –** Compliant |

### *Environmental Incident Reporting*

| **Minister's Condition of Approval E19 and E20** |
|---|
| ***E19 - The Proponent shall notify the Director-General of any environmental incident within 12 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director-General within seven days of the date on which the incident occurred.***<br>***E20 - The Proponent shall meet the requirements of the Director-General to address the cause or impact of any environmental incidents, as it relates to this approval, reported in accordance with condition E19 of this approval, within such period as the Director-General may require.*** |
| ***Compliance Assessment Observations and Comments***<br>No environmental incidents requiring notification of the Director-General occurred within the reporting period. |
| **Compliance Assessment Finding –** Compliant |

### *Annual Performance Reporting*

| **Minister's Condition of Approval E21** |
|---|
| ***The Proponent shall, throughout the life of the project, prepare and submit to the Director-General, and Annual Environmental Management Report (AEMR). The AEMR shall review the performance of the project against the Operation Environmental Management Plan (refer to condition D2 of this approval) and the conditions of this approval. The AEMR shall include, but not necessarily be limited to:***<br>***a) Details of compliance with the conditions of this approval;***<br>***b) A copy of the Complaints Register (refer to condition B11 of this approval) for the preceding twelve-month period (exclusive of personal details), and details of how these complaints were addressed and resolved;***<br>***c) Identification of any circumstances in which the environmental impacts and performance of the project during the twelve month period have not been generally consistent with the environmental impacts and performance predicted in the documents listed under condition A1 of this approval, with details of additional mitigation measures applied to the project to address recurrence of these circumstances;***<br>***d) Results of all environmental monitoring required under conditions of this approval, including interpretations and discussion by a suitable qualified person; and***<br>***e) A list of occasion in the twelve month period when environmental goals/objectives/impact assessment criteria for the project have not been achieved, indicating the reason for failure to meet the criteria and the action taken to prevent recurrence of that type of failure.***<br>***The Proponent shall submit a copy of the AEMR to the Director-General every year, with the first AEMR to be submitted no later than fourteen months after the commencement of operation of the project unless otherwise agreed by the Director-General. The Director-General may require the Proponent to address certain matters in relation to the environmental performance of the project in response to the Director-General's review of the Annual Environment Management Report. Any action required to be undertaken shall be completed within such period as the Director-General may require. The Proponent shall make copies of each AEMR available for public inspection on request. Copies of the AEMR shall be sent to the EPA and the SCA.*** |
| ***Compliance Assessment Observations and Comments***<br>This AEMR satisfies the requirements of CoA E21. |
| **Compliance Assessment Finding –** Compliant |

### *Independent Environmental Auditing*

| **Minister's Condition of Approval E22** |
|---|
| ***Within 12 months of commencement of operation of Lamberts North and Lamberts South and then as may be directed by the Director-General, the Proponent shall commission an independent person or team to undertake and Environmental Audit of the project. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. The Audit shall:***<br>***a) Be carried out in accordance with ISO 19011:2002 – Guidelines for Quality and/or Environmental Management Systems Auditing;***<br>***b) Assess compliance with the requirements of this approval, and other licences and approvals that apply to the project;***<br>***c) Assess the environmental performance of the project against the predictions made and conclusions drawn in the documents referred to under conditionA1 of this approval;***<br>***d) Review the effectiveness of the environmental management of the project, including any environmental impact mitigation works; and***<br>***e) Review the adequacy of the Proponent's response to any complaints made about the project identified in the Complaints Register.***<br>***The Environmental Audit Report shall be submitted to the Director-General within two months of the completion of the Audit, detailing the findings and recommendations of the Audit and including a detailed response from the Proponent to any of the recommendations contained in the Report.*** |
| ***Compliance Assessment Observations and Comments***<br>In accordance with the above condition, EnergyAustralia engaged Aurecon to undertake the independent environmental audit on 2nd – 3rd September 2014. |
| **Compliance Assessment Finding –** Compliant |

### *Waste Generation and Management*

| **Minister's Condition of Approval E23** |
|---|
| ***All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.*** |
| ***Compliance Assessment Observations and Comments***<br>Lend Lease utilises EnergyAustralia NSW's waste management facilities for wastes generated in the operation of the repository, including waste oils, general waste and materials for recycling. These are stored in intermediate storage facilities at Mt Piper Power Station and routinely removed by EnergyAustralia NSW's waste contractors. No additional waste materials were generated during the reporting period. |
| **Compliance Assessment Finding –** Compliant. |

| **Minister's Condition of Approval E24** |
|---|
| ***The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.*** |
| ***Compliance Assessment Observations and Comments***<br>No wastes generated outside the Lamberts North site are allowed to enter the area.<br>To prevent the unlawful access to the repository area, regular security patrols are conducted across the site. Both Lend Lease and EnergyAustralia NSW security personnel are required to report if they encounter wastes outside those that are allowed during routine operations. |
| **Compliance Assessment Finding –** Compliant |
| **Minister's Condition of Approval E25** |
| ***The Proponent shall ensure that all liquid and/or non-liquid waste generated and/or stored on the site is assessed and classified in accordance with the Waste Classification Guidelines (DECC, 2008), or any future guideline that may supersede that document.*** |
| ***Compliance Assessment Observations and Comments***<br>Lend Lease provides Monthly Ash Placement Work Instructions to address all issues of routine site maintenance as part of a monthly work program. Waste management is conducted in accordance with EPA guidelines. |
| **Compliance Assessment Finding –** Compliant |

# Post Operation conditions

### *Project Completion Management Plan*

| **Minister's Condition of Approval F1** |
|---|
| ***No later than one month prior to the decommissioning of the project, or as otherwise agreed by the Director-General, the Proponent is to prepare a Project Completion Management Plan, in consultation with the SCA, for the approval of the Director-General. The Plan is to include, but not necessarily be limited to:***<br>***a) Identification of structures to be removed and how they will be removed;***<br>***b) Measures to reduce impacts on the environment and surrounding sensitive land uses;***<br>***c) Details of components to be recycled;***<br>***d) Details of rehabilitation and revegetation with reference to the biodiversity offset required under condition B6;***<br>***e) Groundwater assessment criteria including trigger levels for remedial measures;***<br>***f) A groundwater monitoring program as per condition E15 for groundwater connectivity, water levels, groundwater flow and water quality over the short and long term that includes upstream and downstream locations. The program shall continue for a minimum of five years following final capping and landscaping;***<br>***g) A contingency plan to address potential exceedences and mitigation measures in groundwater and groundwater quality impacts and if exceedences continue, implementation of further measures and groundwater monitoring to demonstrate compliance;***<br>***h) Surface water assessment criteria including trigger levels for remedial measures;***<br>***i) Available flow and water quality monitoring program for Neubecks Creek and Lamberts Gully Creek that includes discharge points, upstream and downstream locations as per condition E16 and limits for identified pollutants. The program shall continue for a minimum of five years following final capping and landscaping; and***<br>***j) A contingency plan to address potential exceedences and mitigation measures in surface water and surface water quality impacts and if exceedences continue, implementation of further measures and surface water monitoring to demonstrate compliance.*** |
| ***Compliance Assessment Observations and Comments***<br>Project is still in operational phase. |
| **Compliance Assessment Finding -** Not Applicable |

# Appendix B
# OEMP – Table 4-1: Licences, permits and approvals required for the Project

## (refer to CD for Full Appendix)

# Appendix C
# Environmental Monitoring Program
# (refer to CD for Full Appendix)

# Appendix D
# Lamberts North Operational Noise assessment – September 2014
# (refer to CD for Full Appendix)

# Appendix E
# Lamberts North Operational Noise assessment – March 2015
# (refer to CD for Full Appendix)

# Appendix F
# Lamberts North Ash repository Water Quality Report 2014 – 2015
# (refer to CD for Full Appendix)

# Appendix G
# Mt Piper Ash Repository Lamberts North Air Quality Report 2014 - 2015

## (refer to CD for Full Appendix)

# Appendix H
# Lamberts North Internal Audit August 2015
# (refer to CD for Full Appendix)

# Appendix I
# Nalco Laboratory QA and QC 2014-15
# (refer to CD for Full Appendix)